

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

FIG. 1

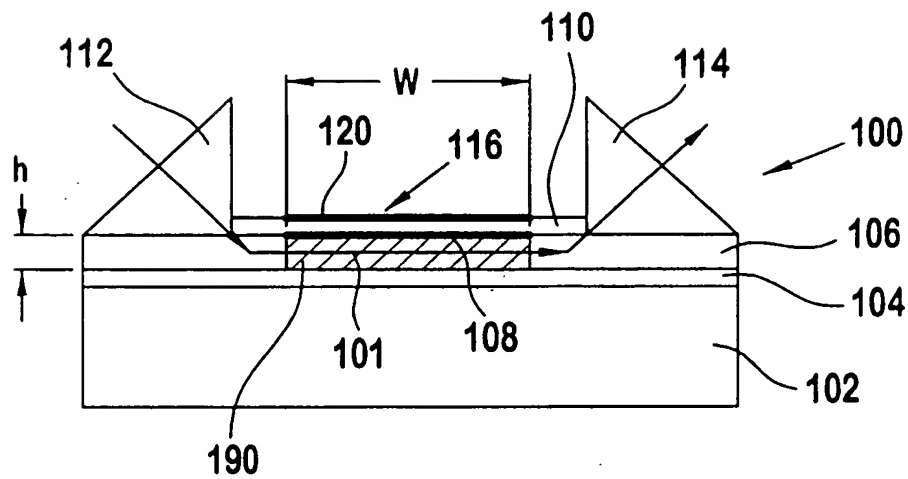


FIG. 2

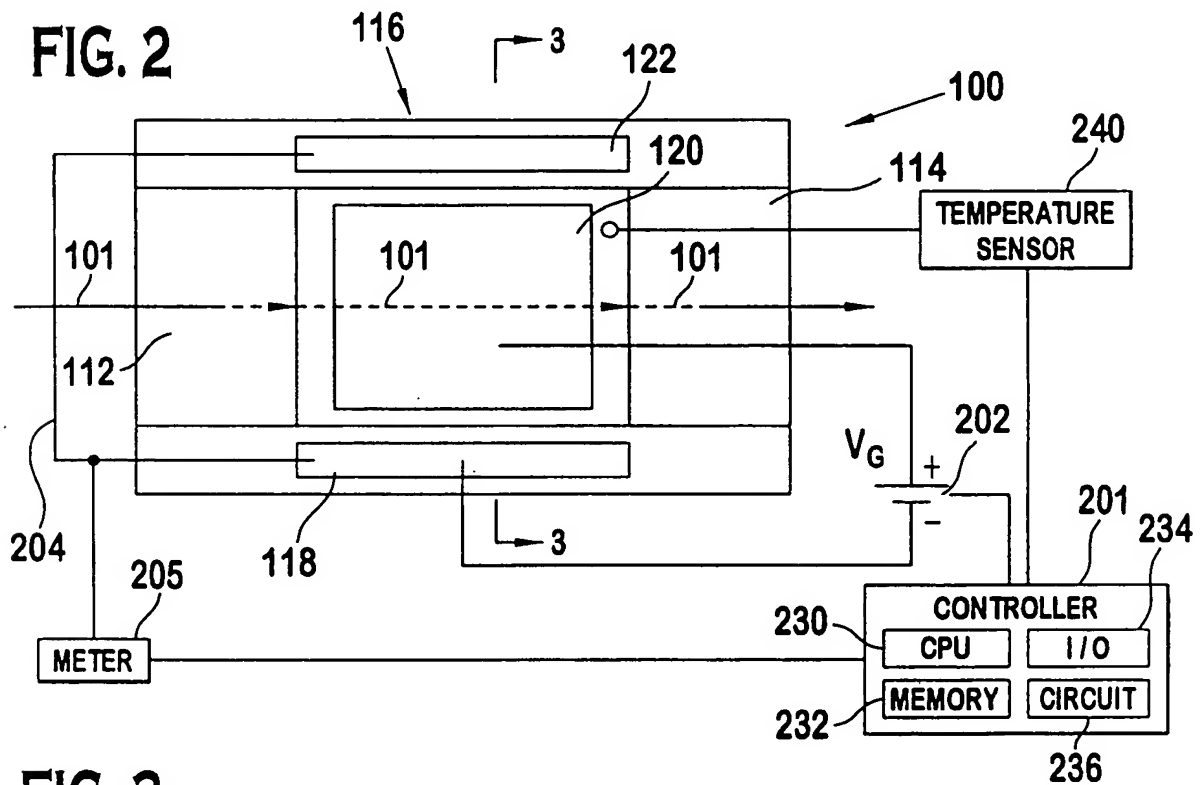
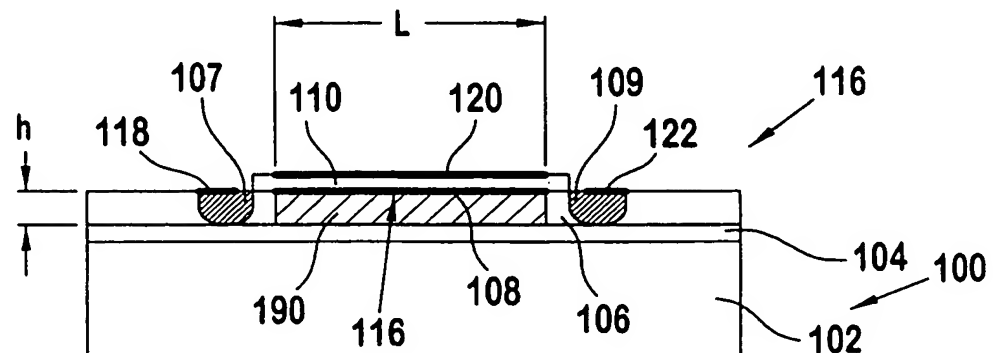


FIG. 3



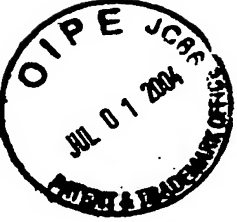


FIG. 4

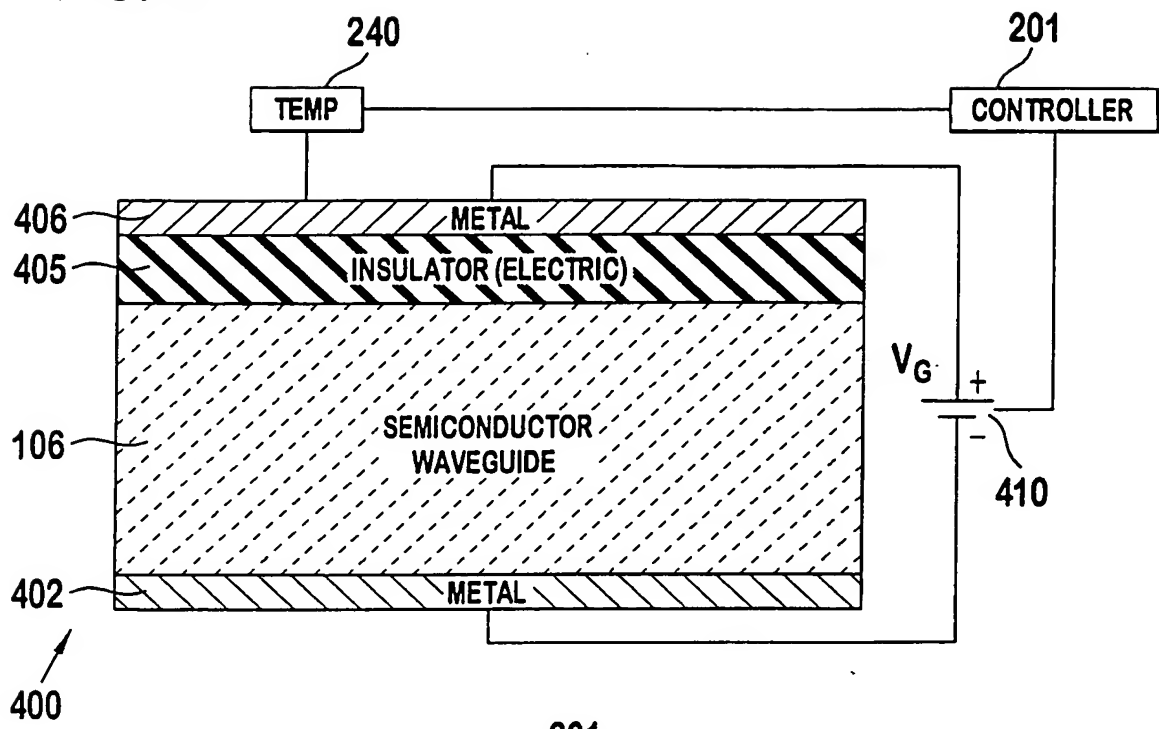


FIG. 5

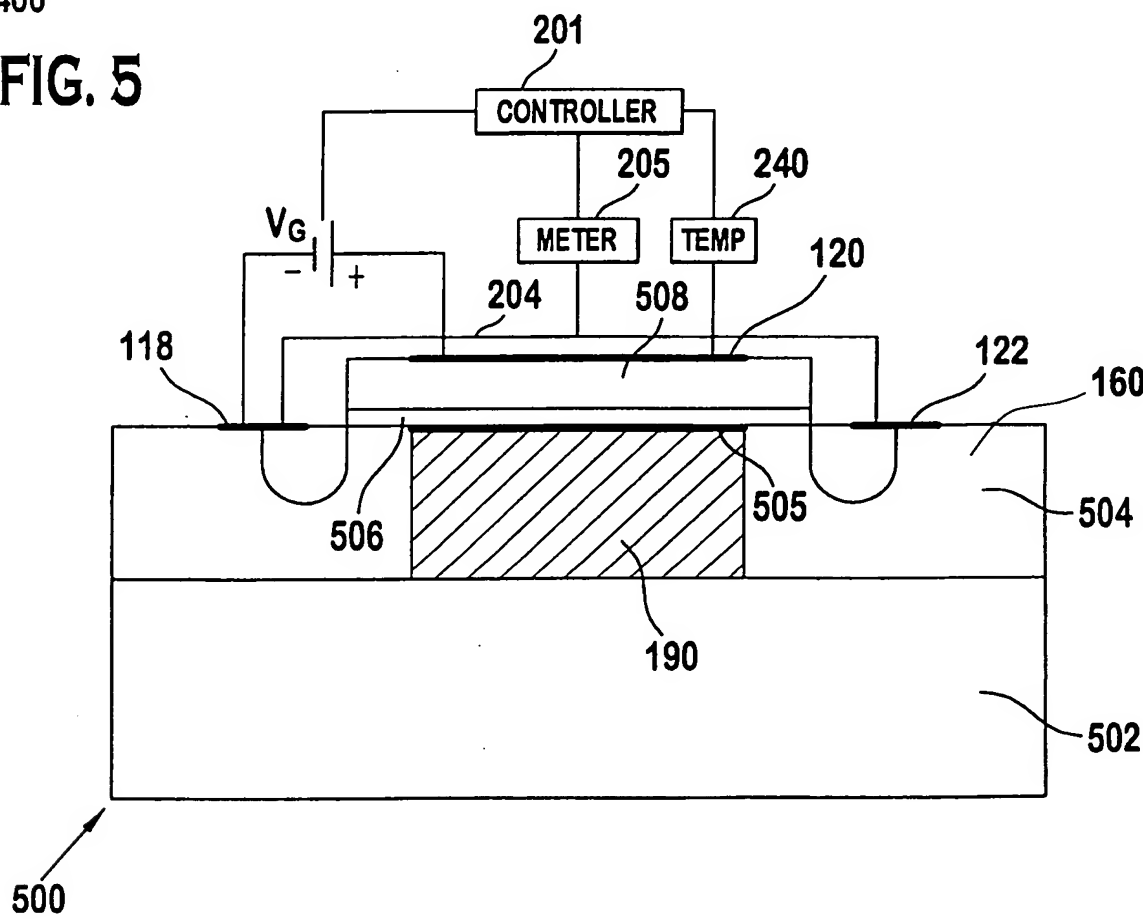


FIG. 6

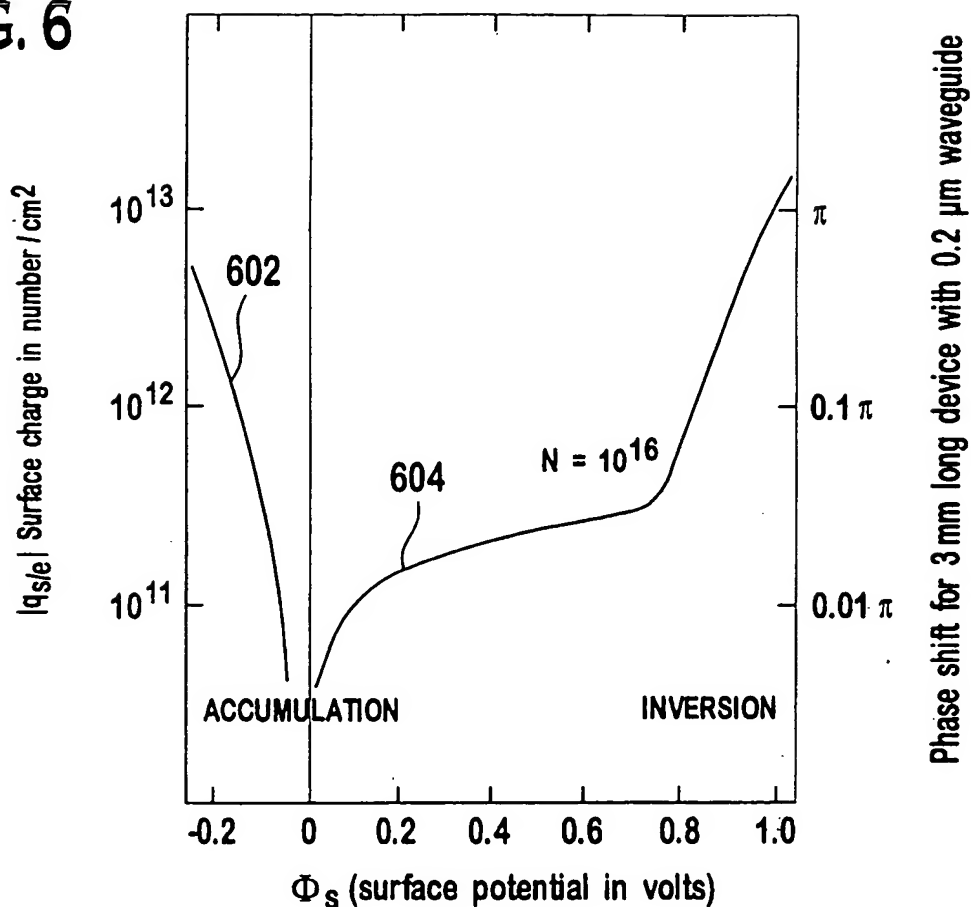


FIG. 7

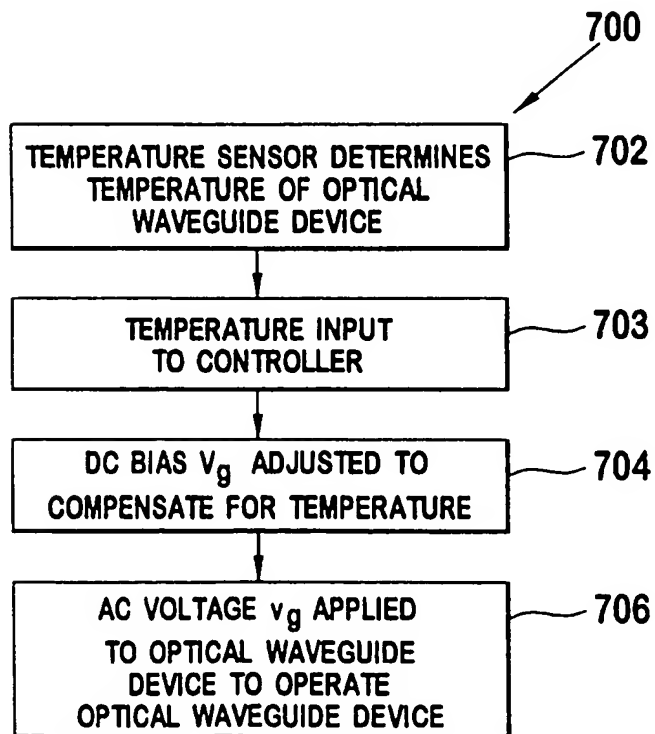


FIG. 8

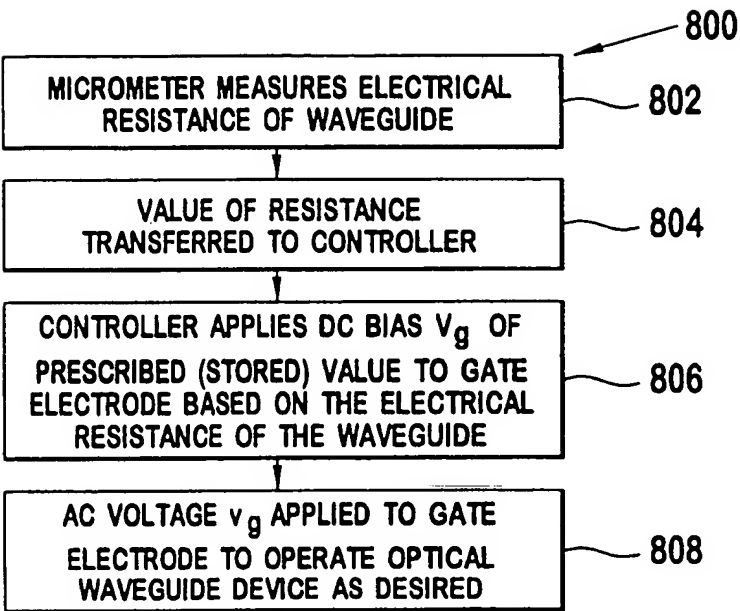


FIG. 9

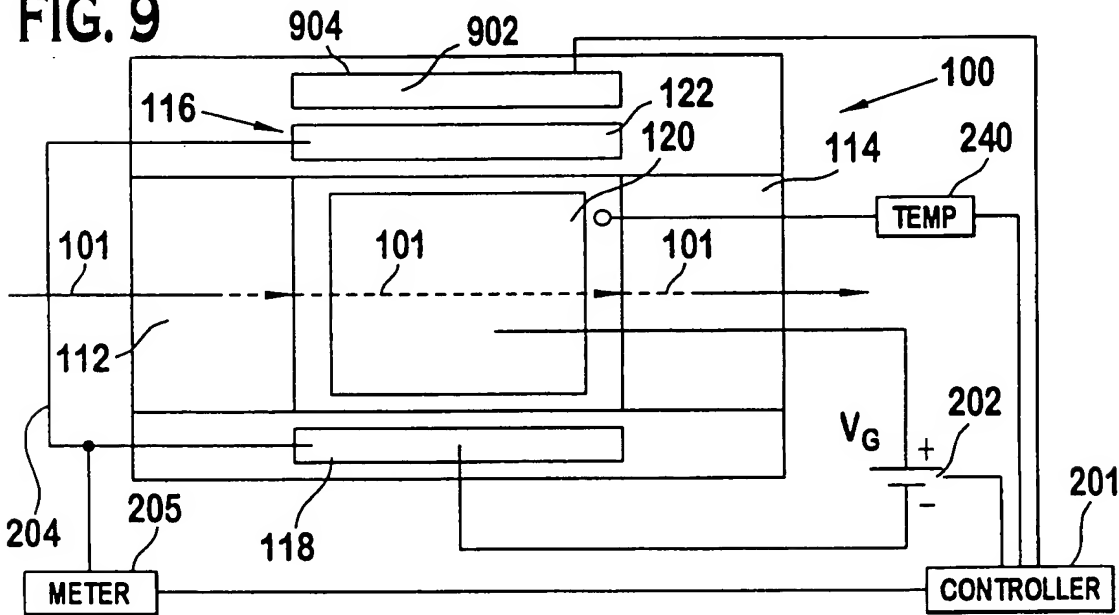


FIG. 10

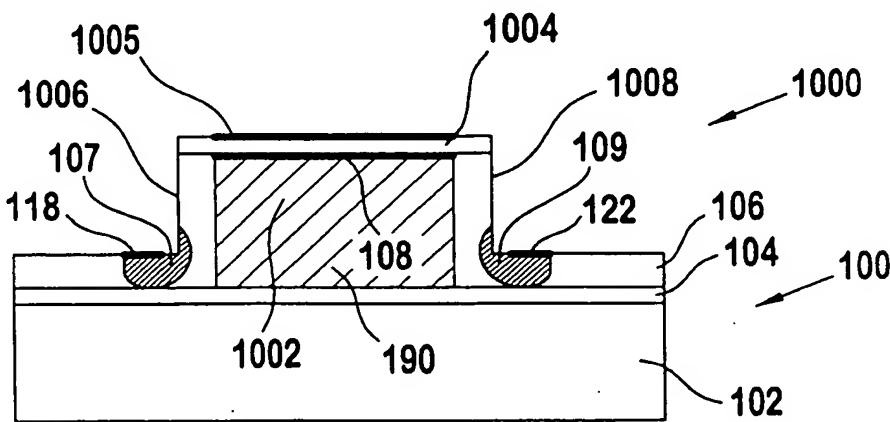


FIG. 11

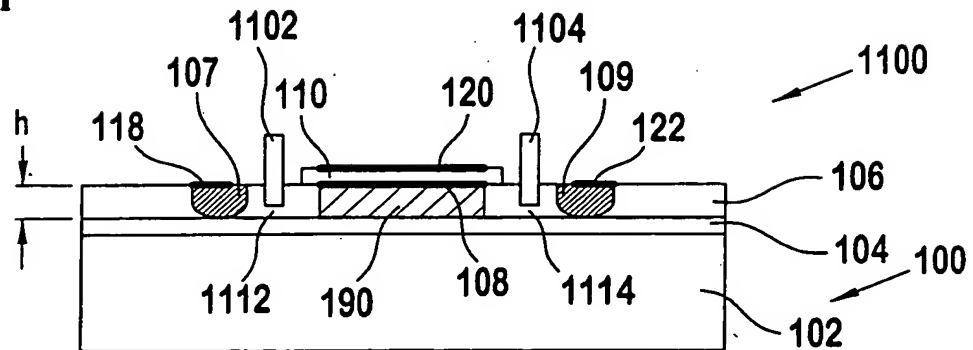


FIG. 12

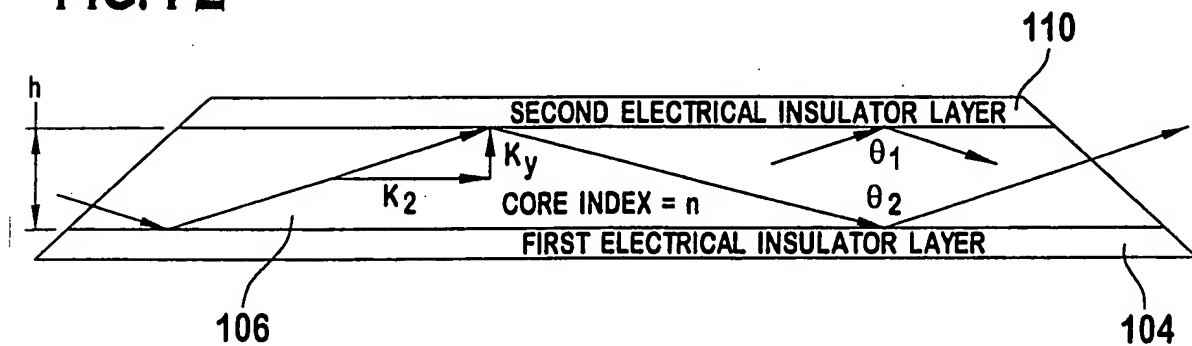
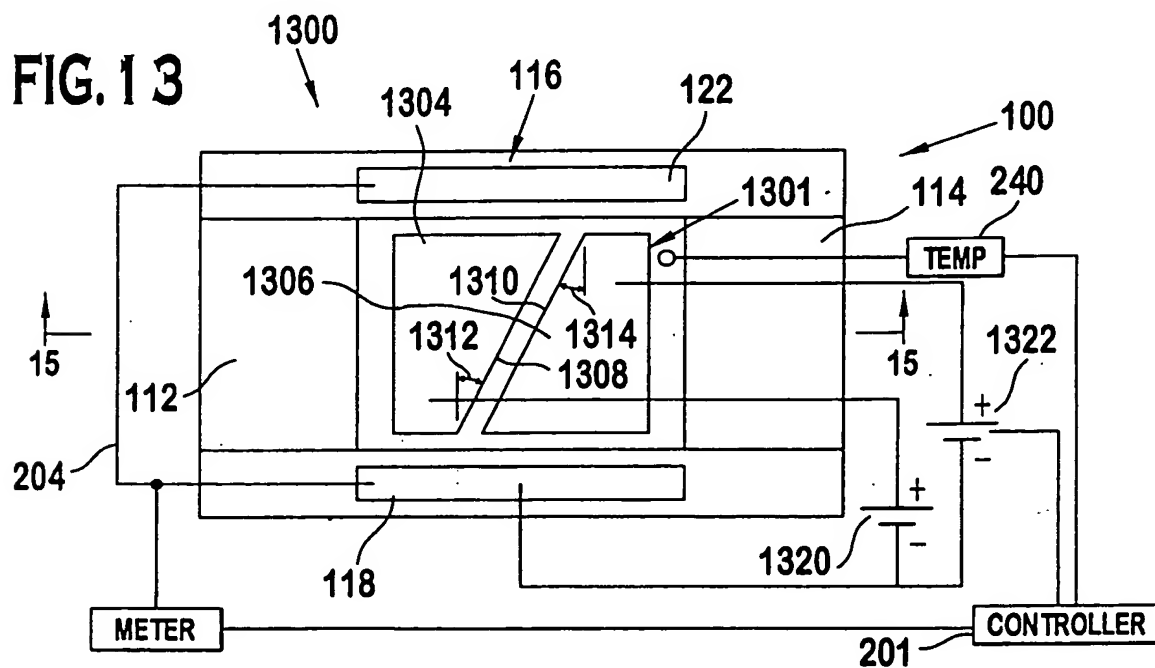


FIG. 13



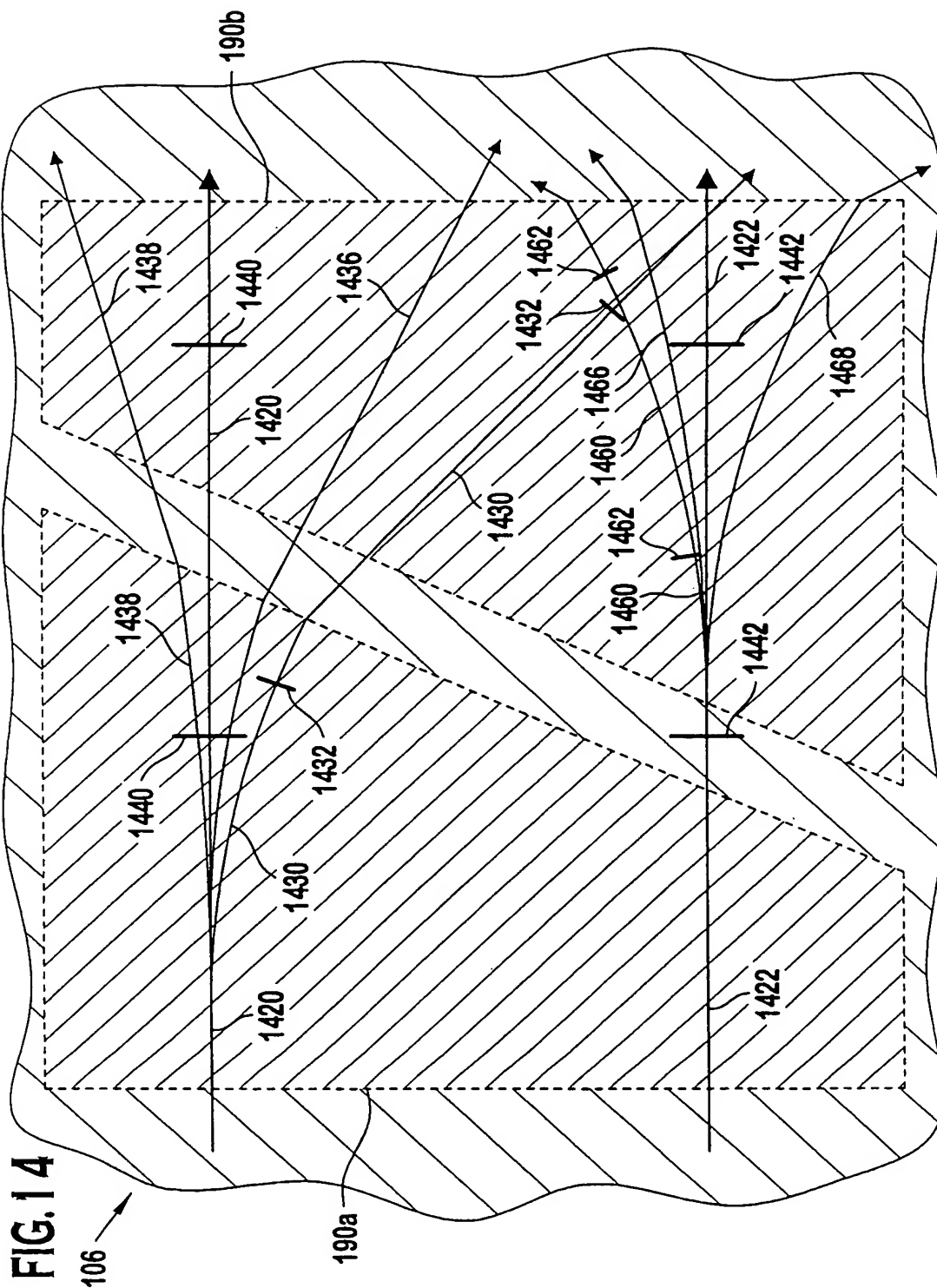


FIG. 15A

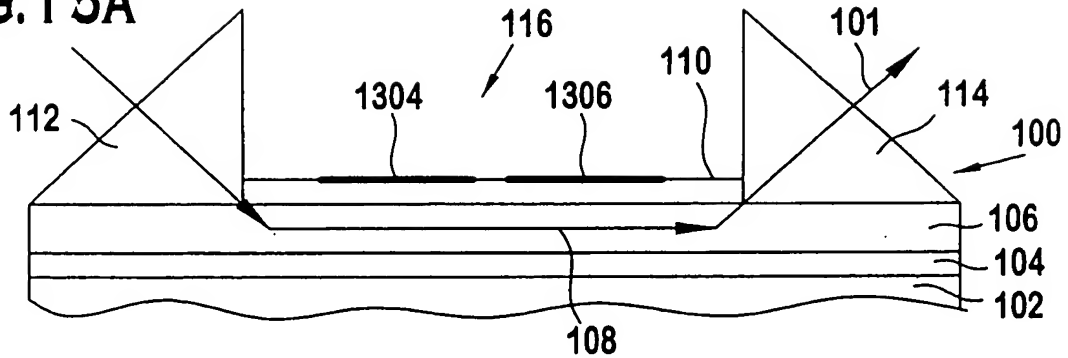


FIG. 15B

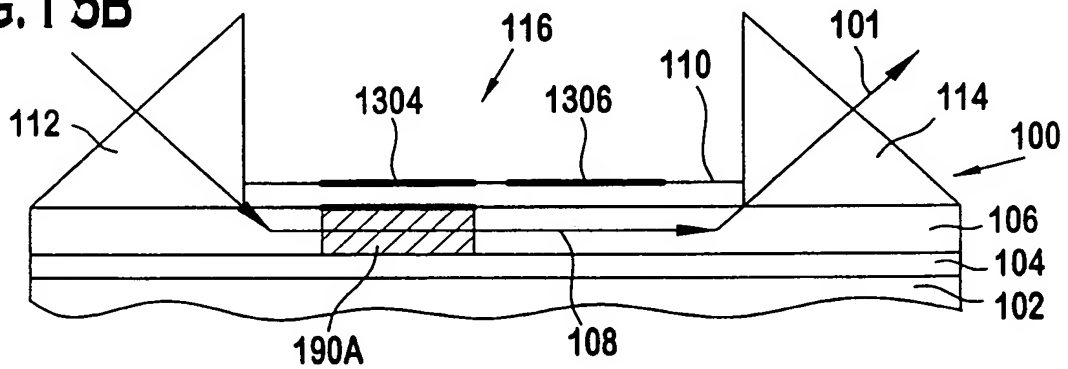


FIG. 15C

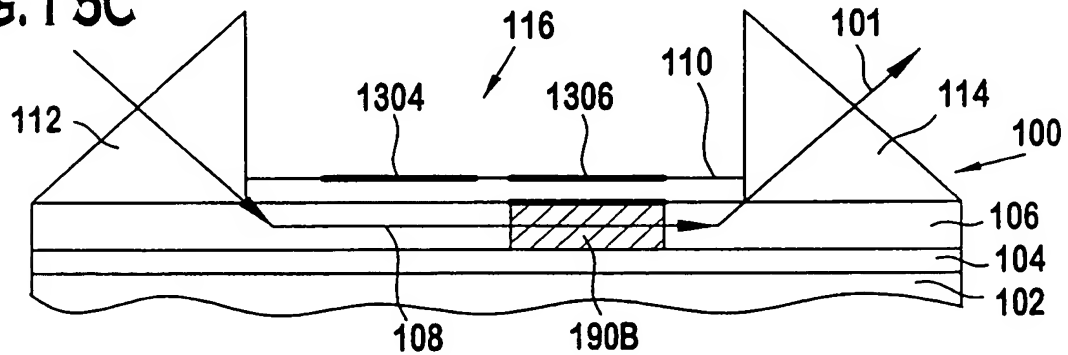


FIG. 15D

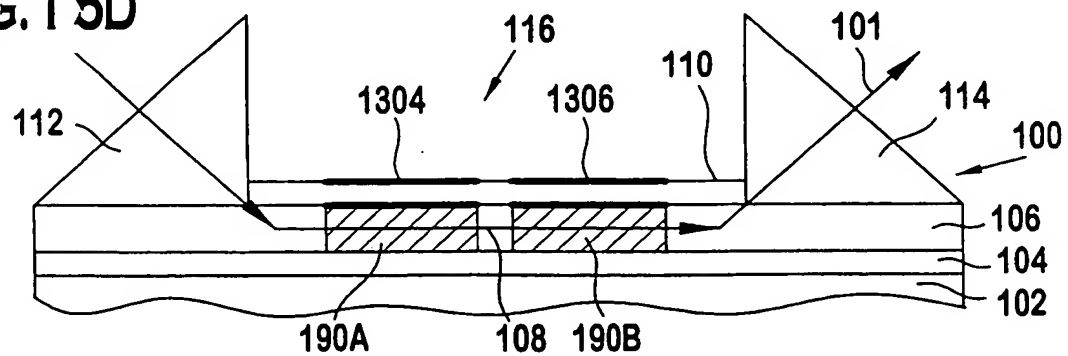


FIG. 16

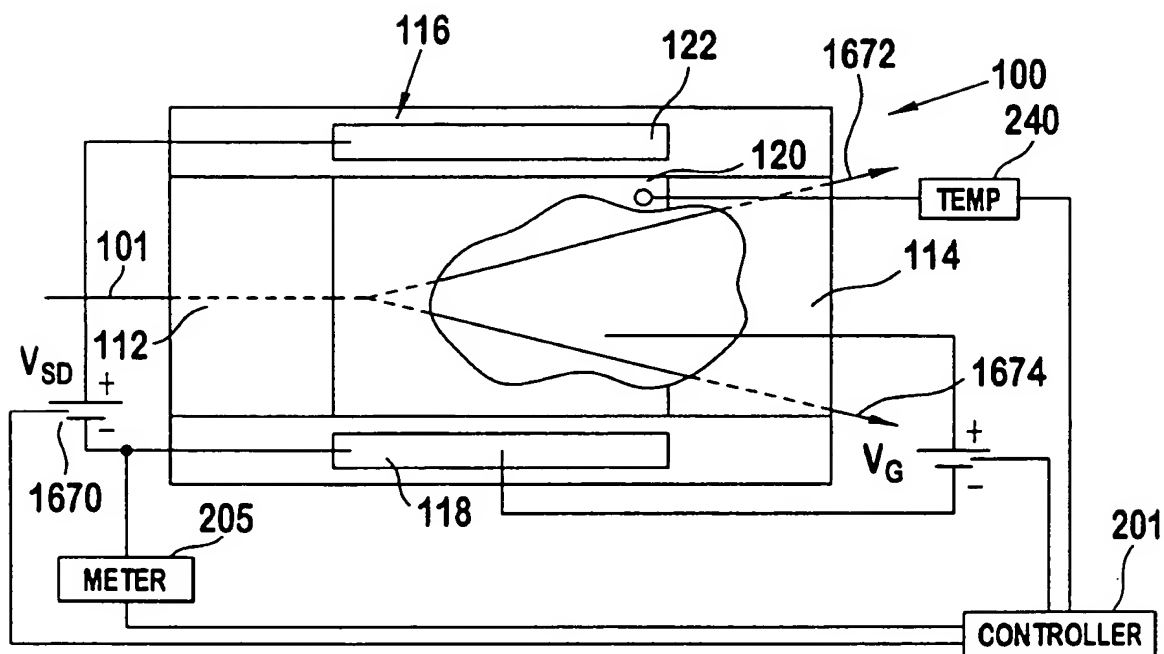


FIG. 17

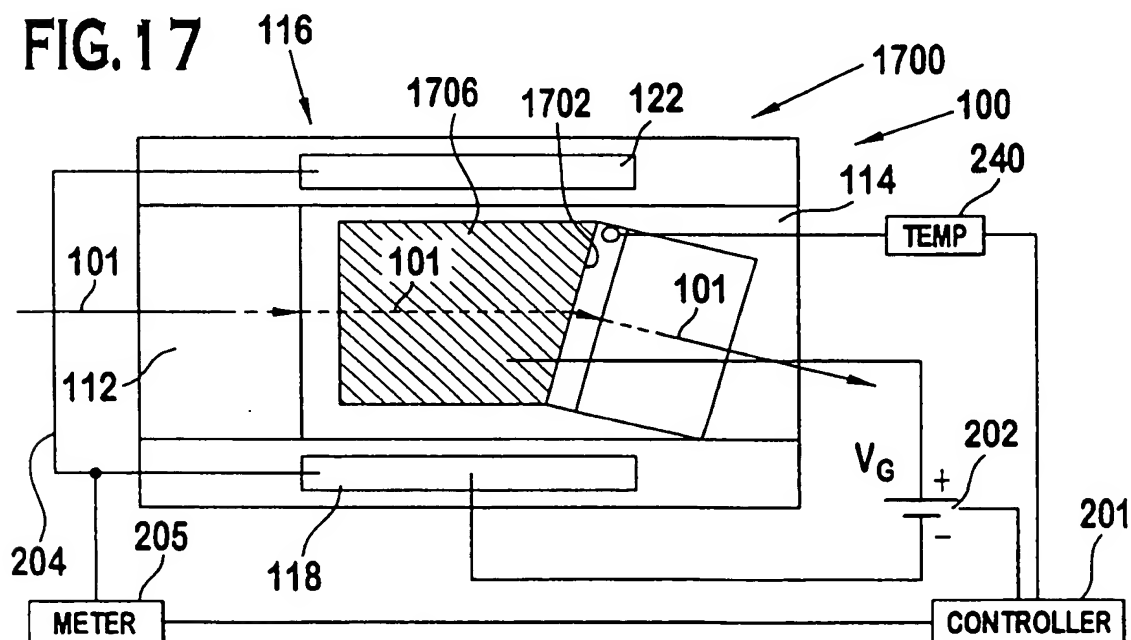


FIG. 18

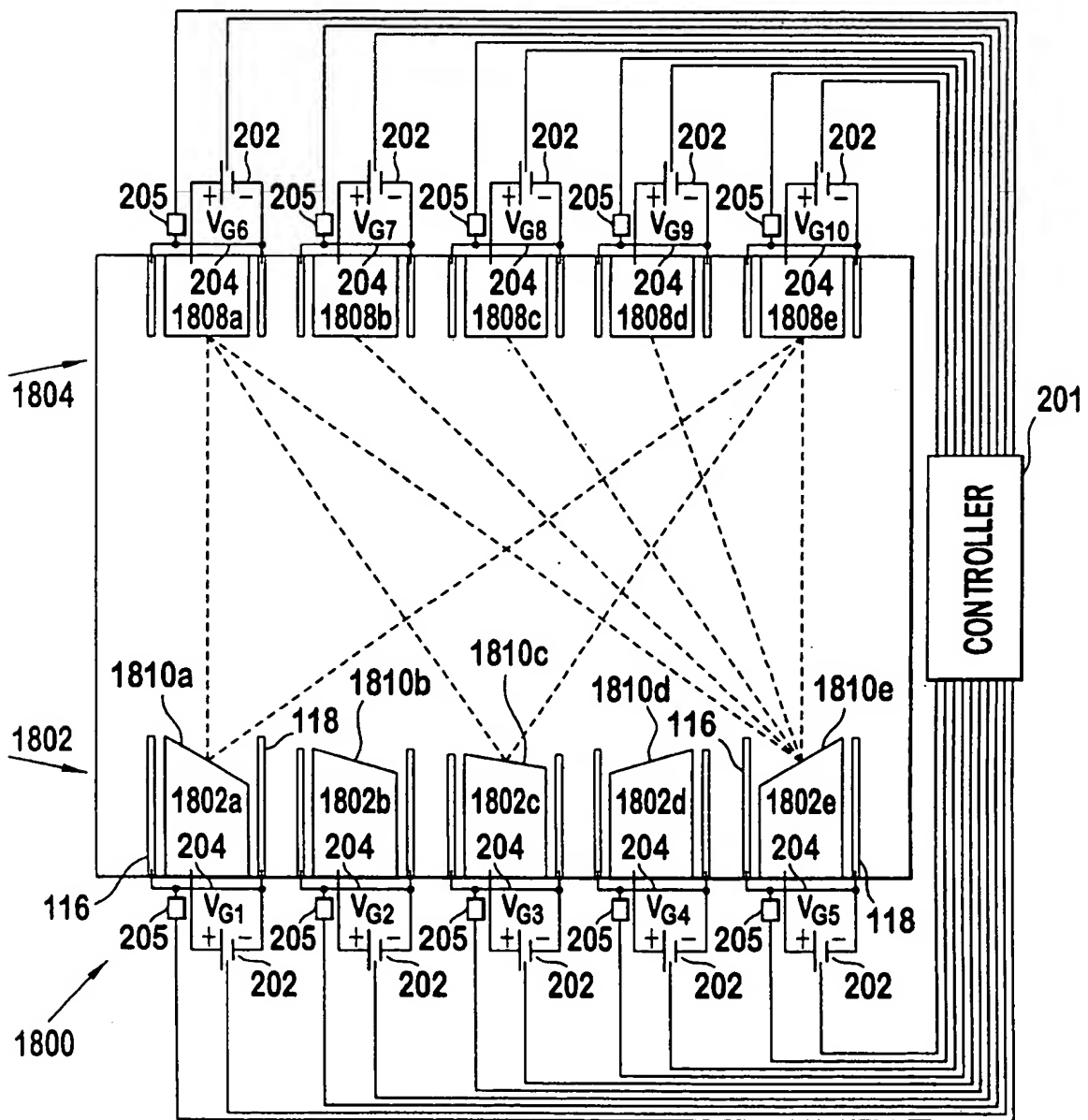


FIG. 19

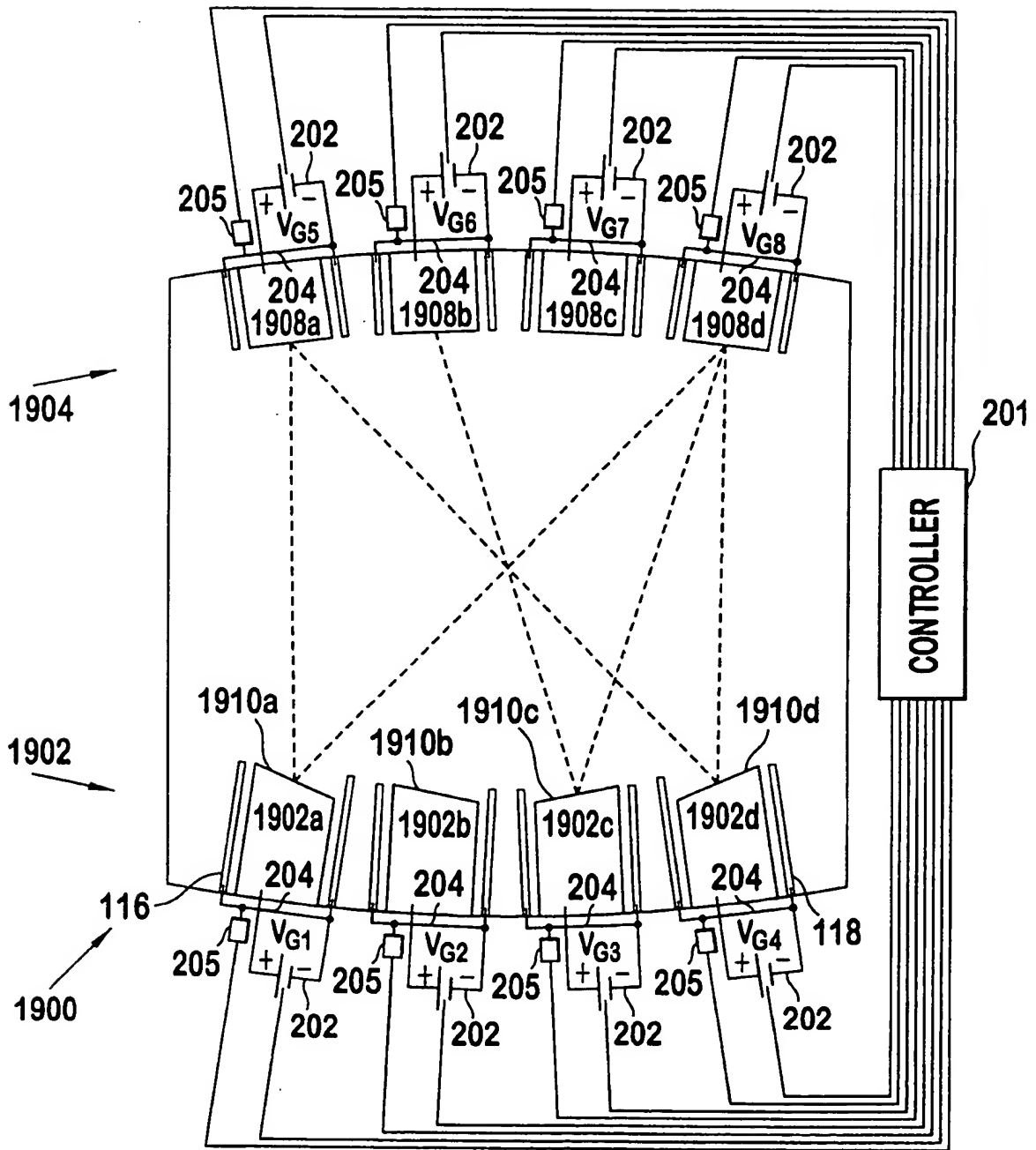


FIG. 20

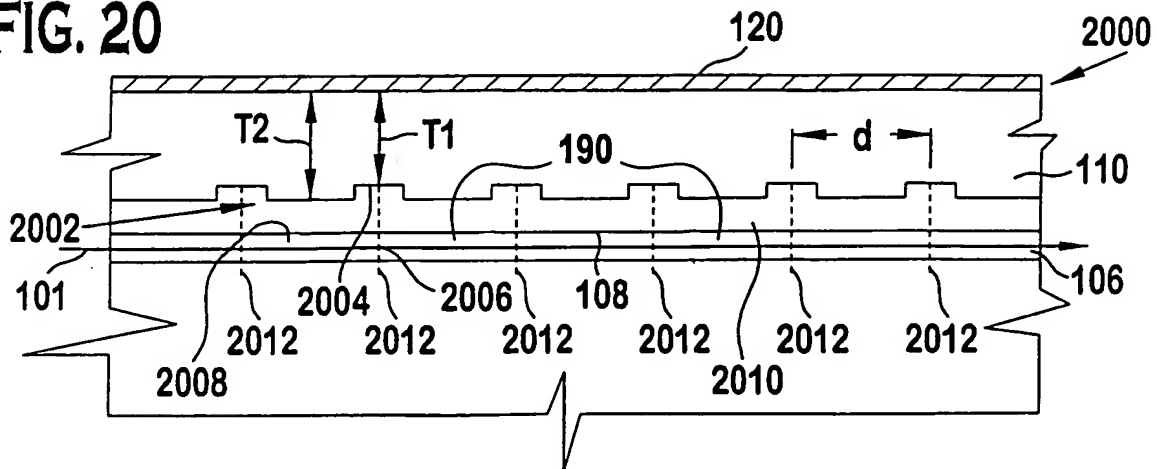


FIG. 21

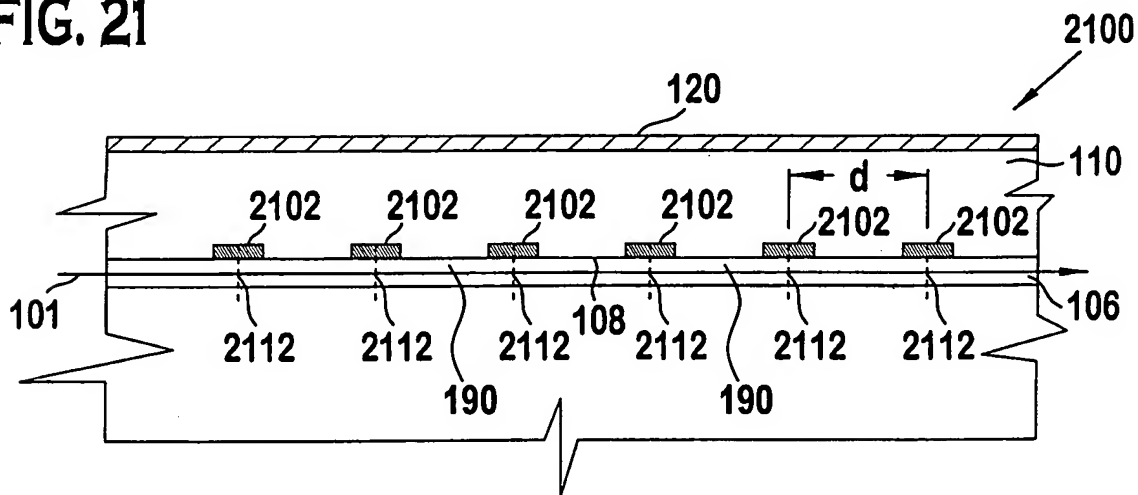


FIG. 22

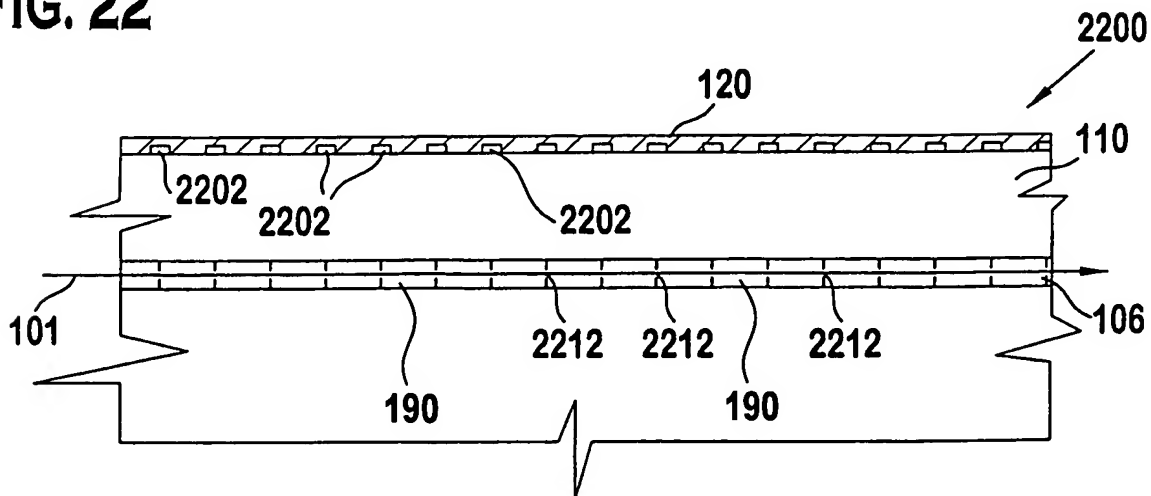


FIG. 23

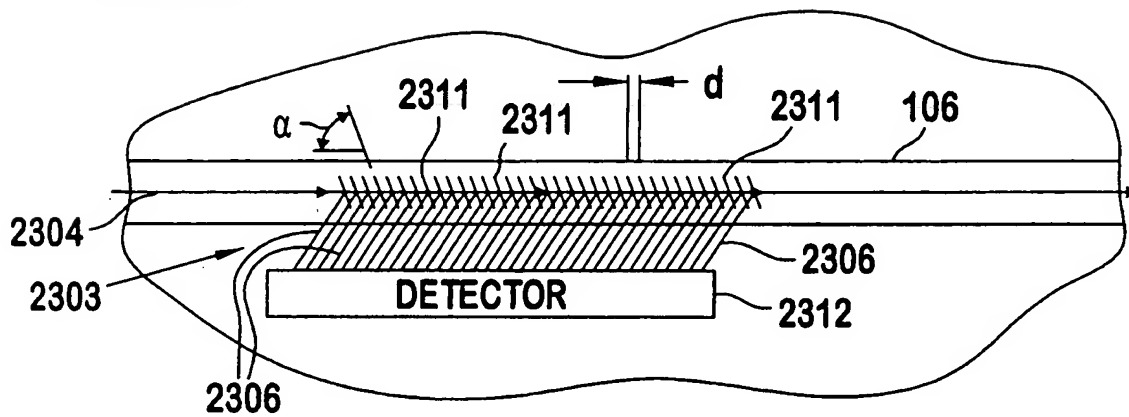


FIG. 24

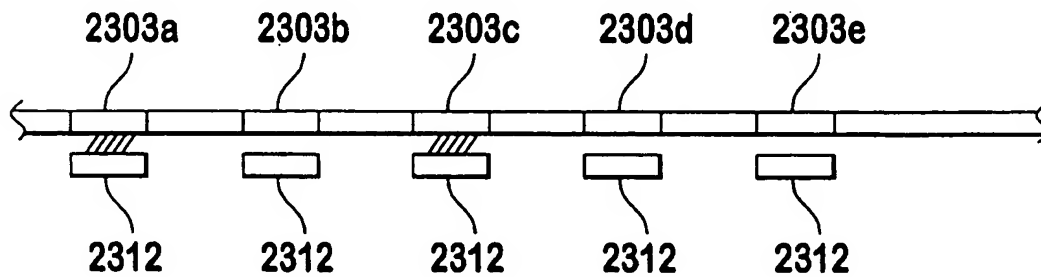




FIG. 25A

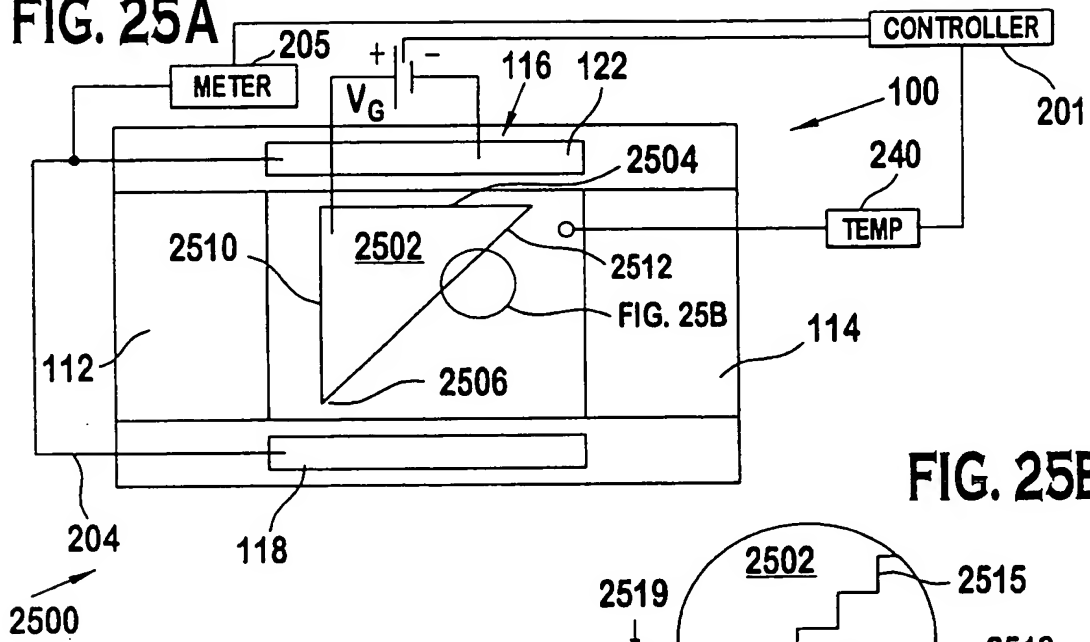


FIG. 25B

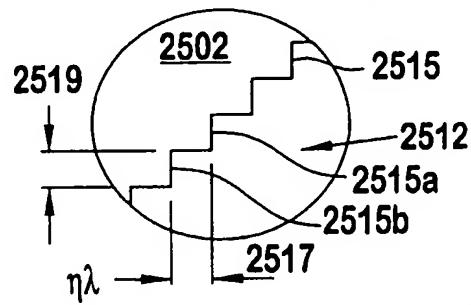


FIG. 26

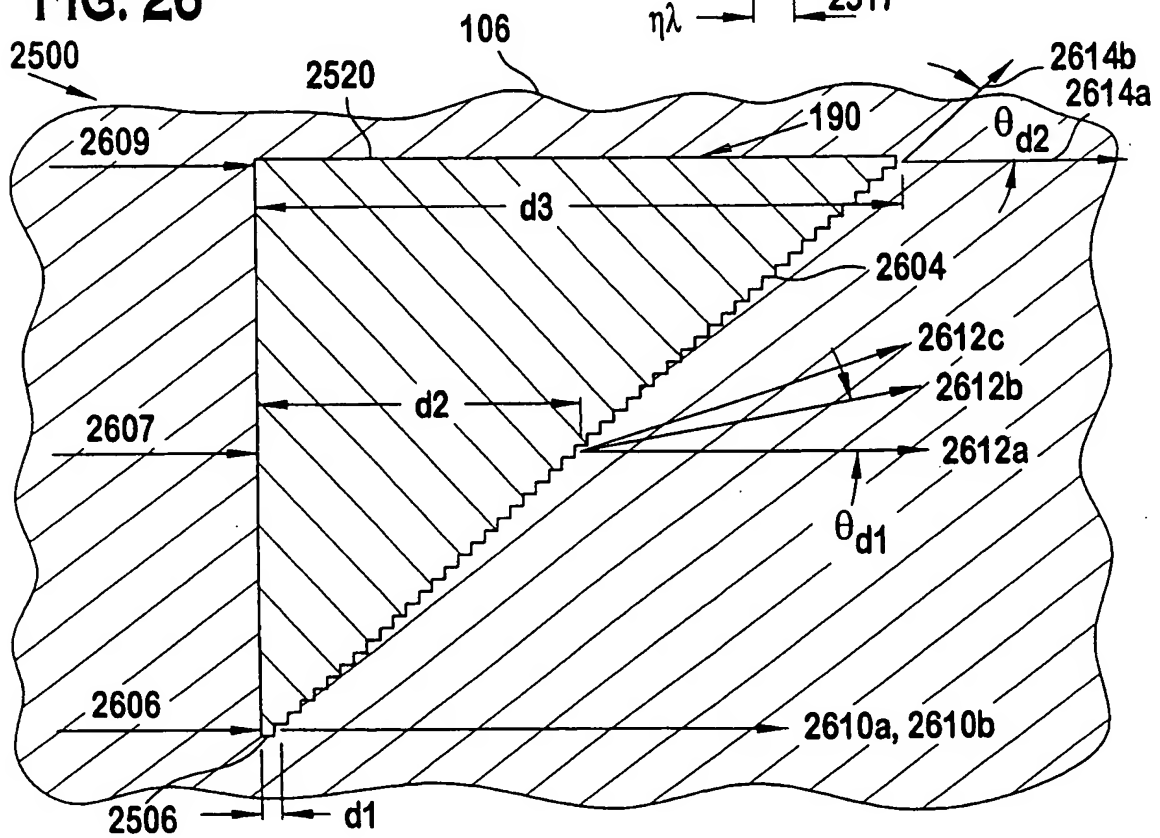


FIG. 27

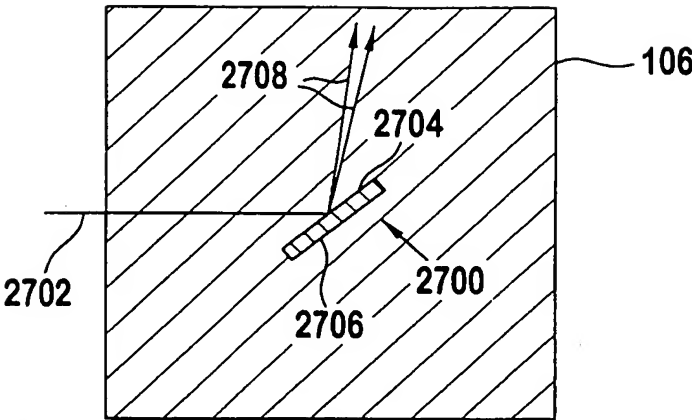


FIG. 28

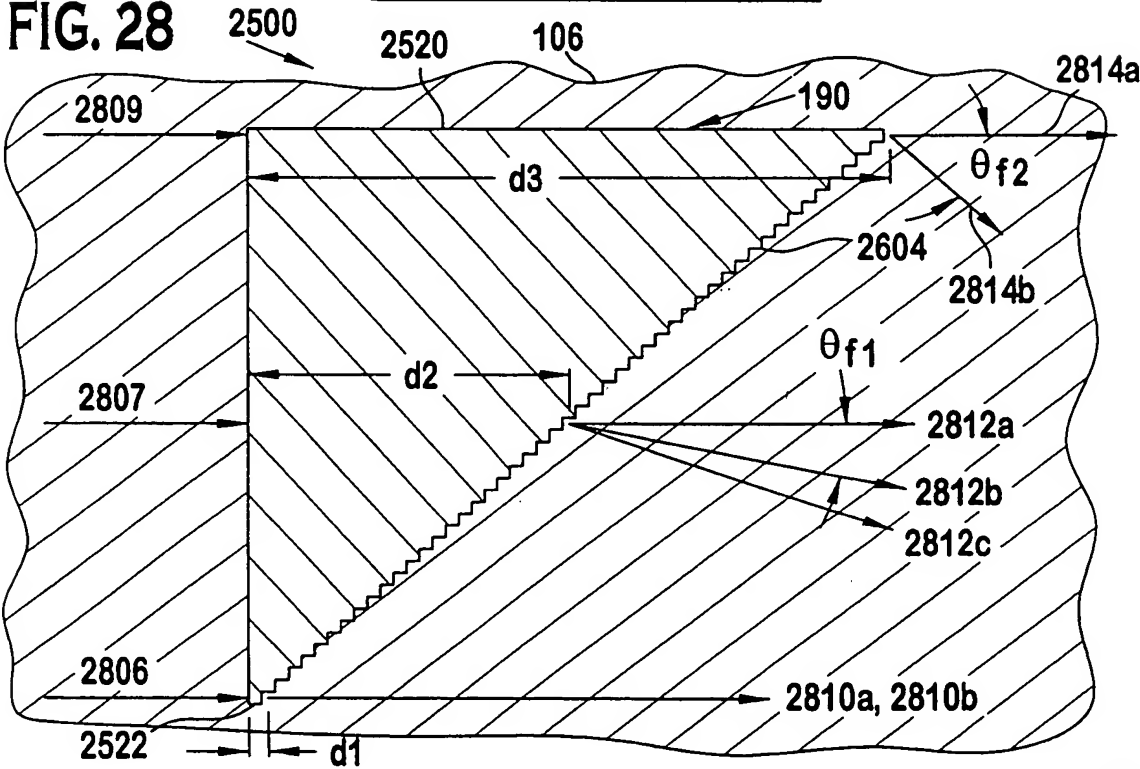


FIG. 29

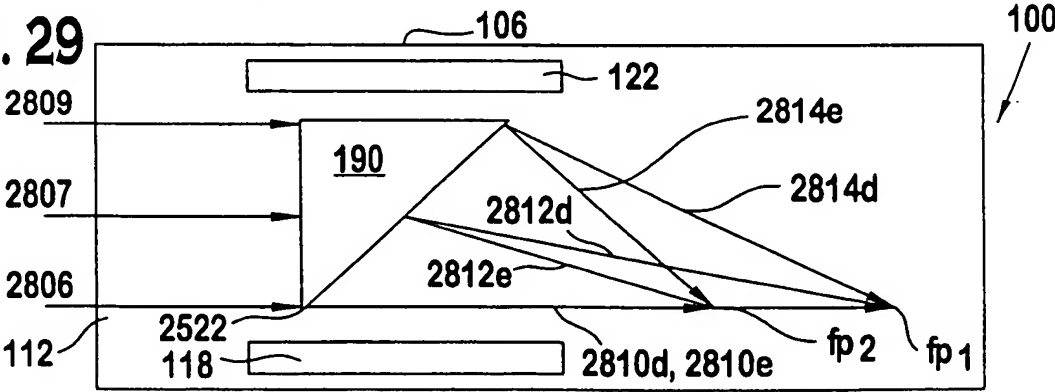


FIG. 30B

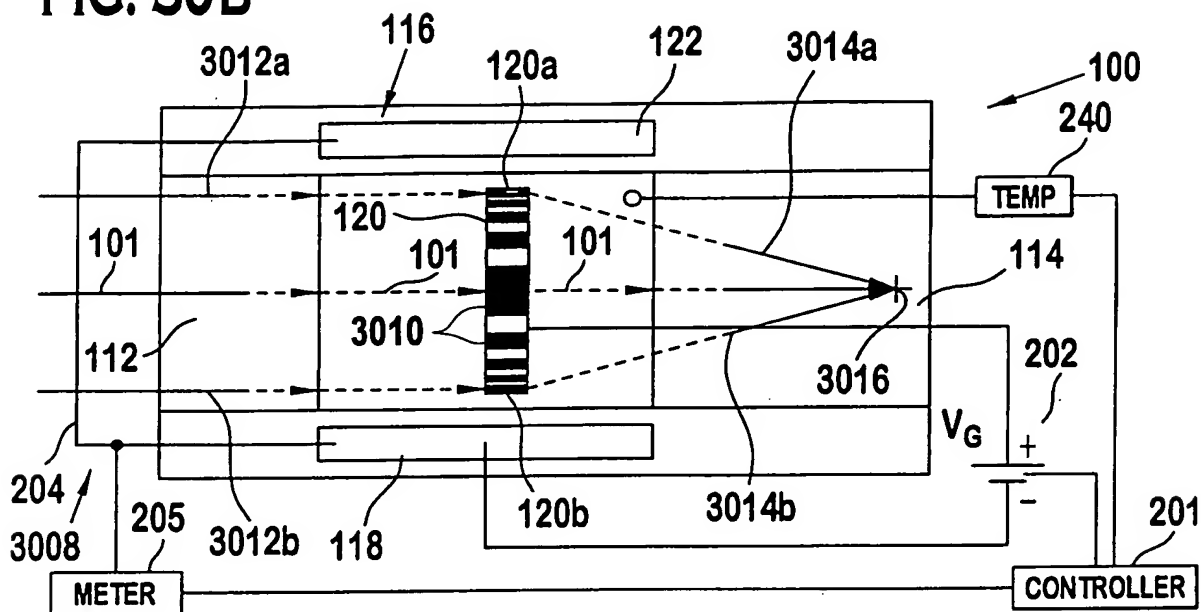


FIG. 30A

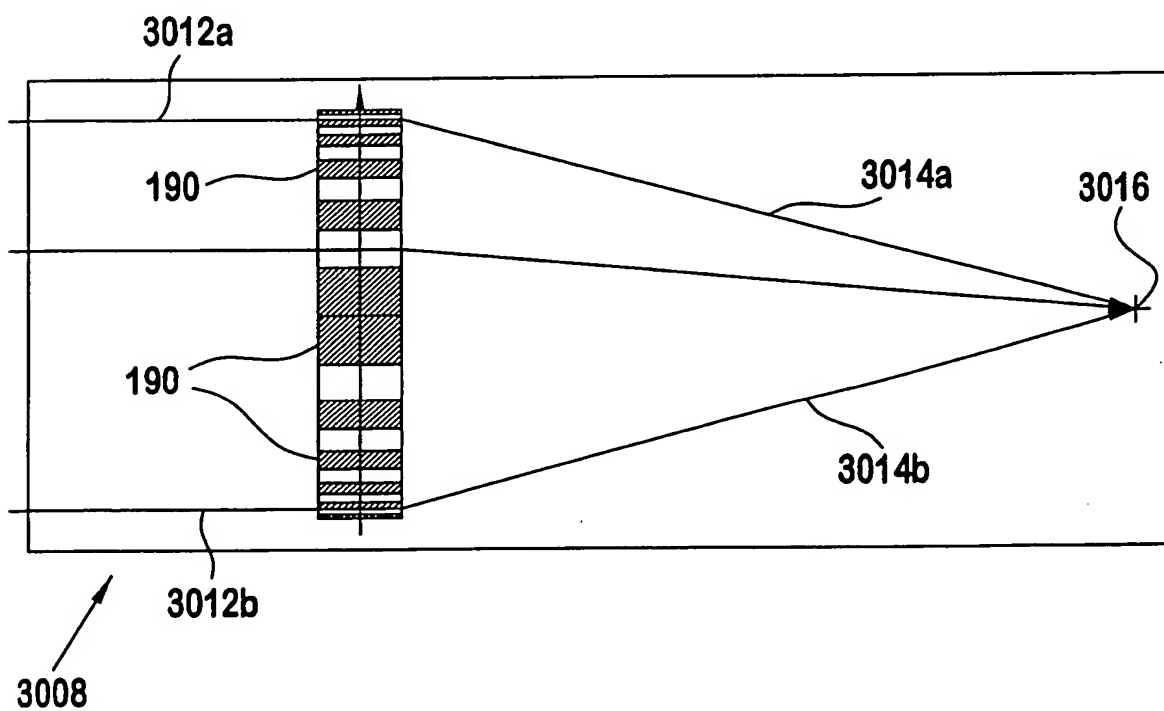


FIG. 31B

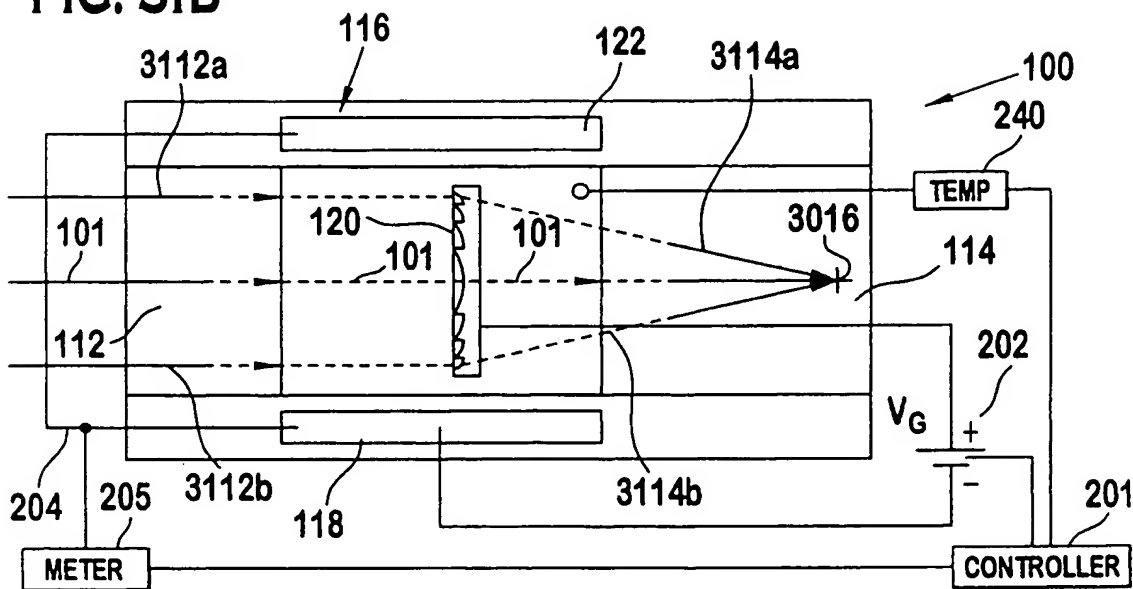


FIG. 31 A

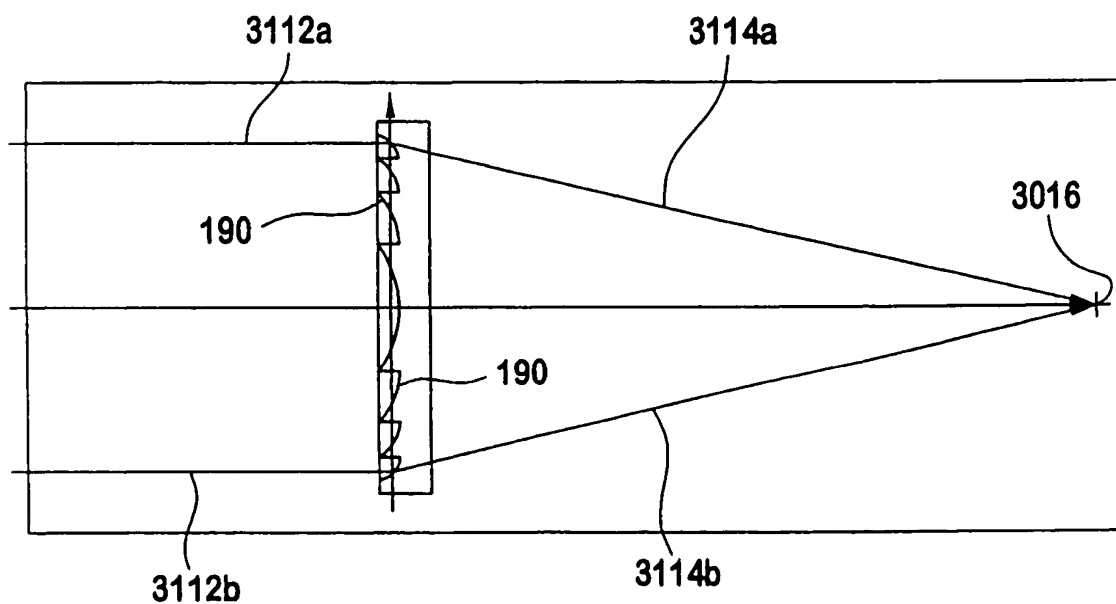


FIG. 32B

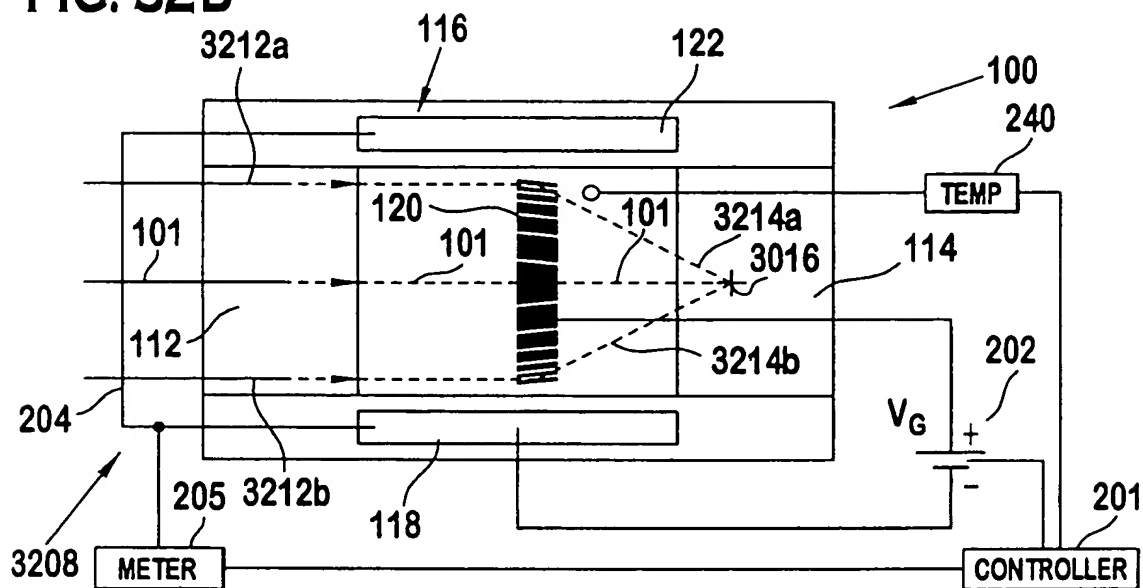


FIG. 32A

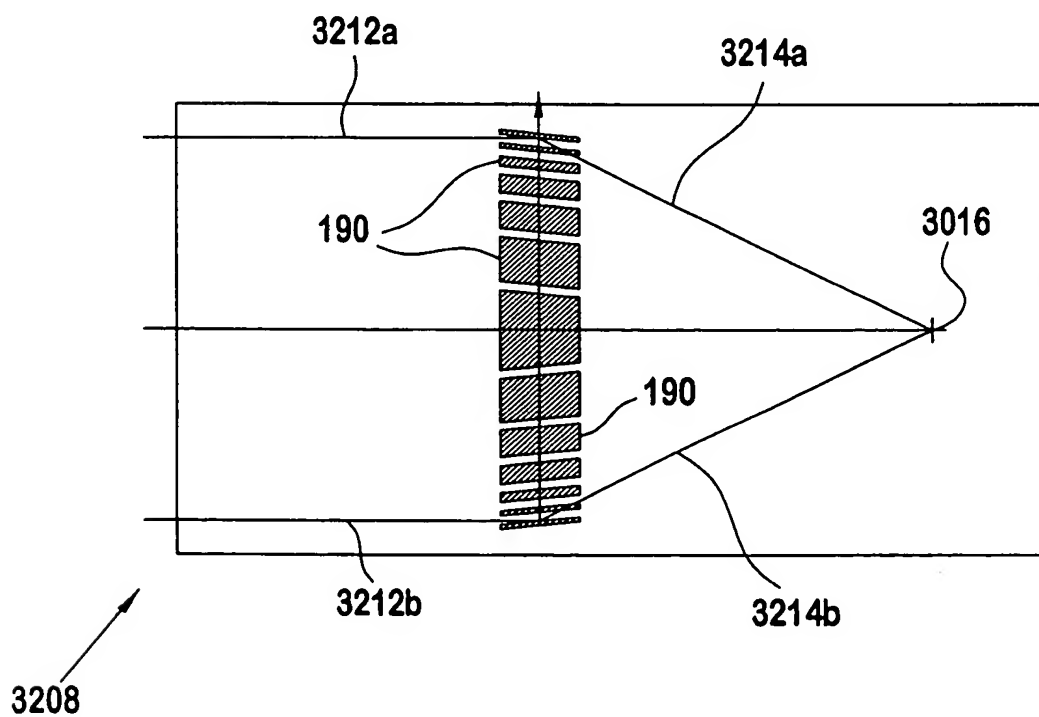


FIG. 33

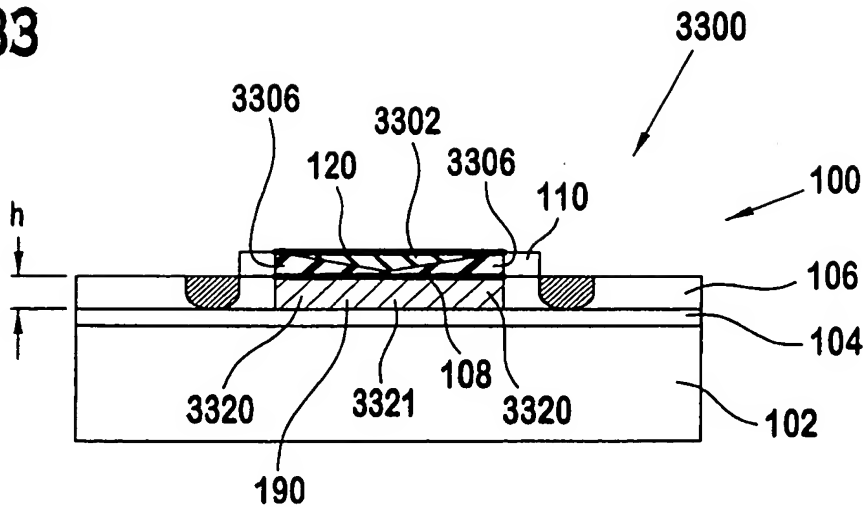


FIG. 34

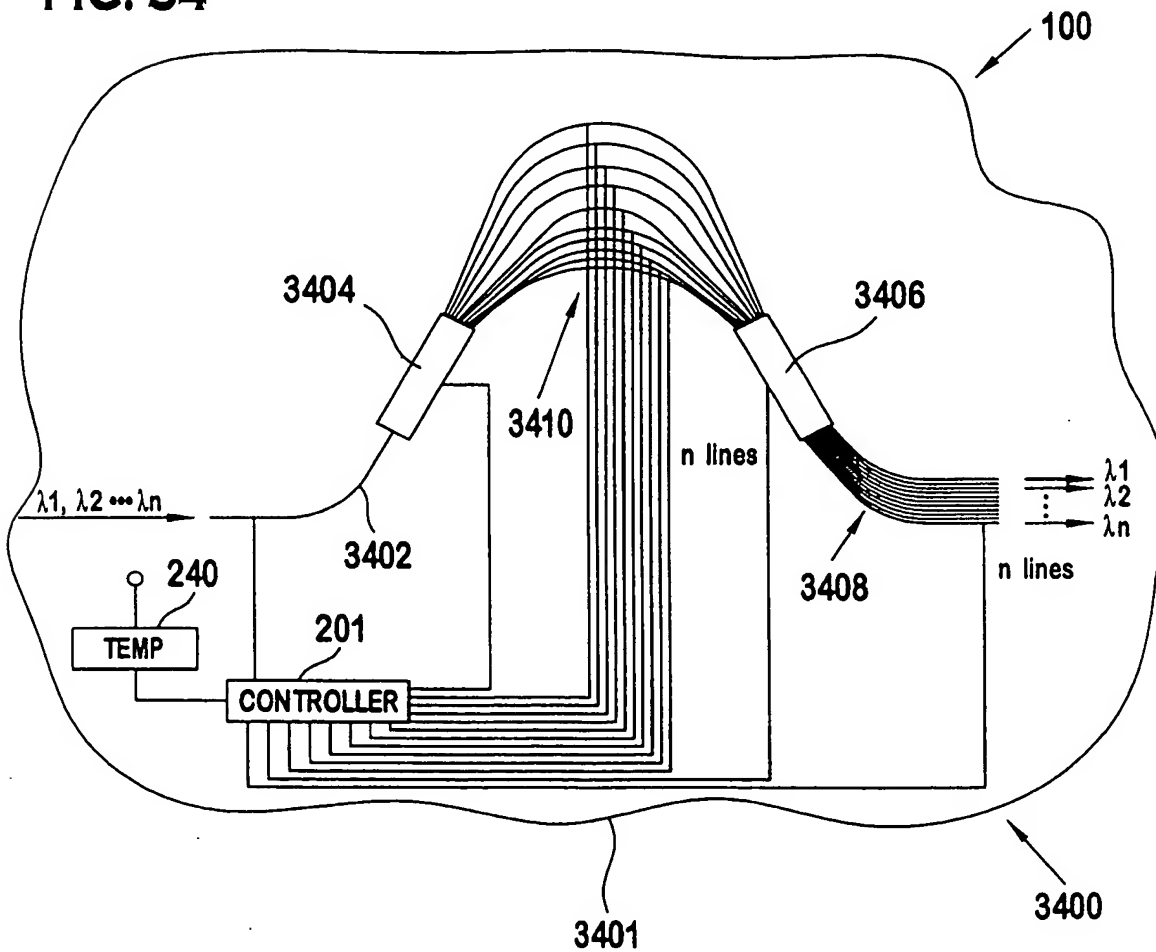


FIG. 35

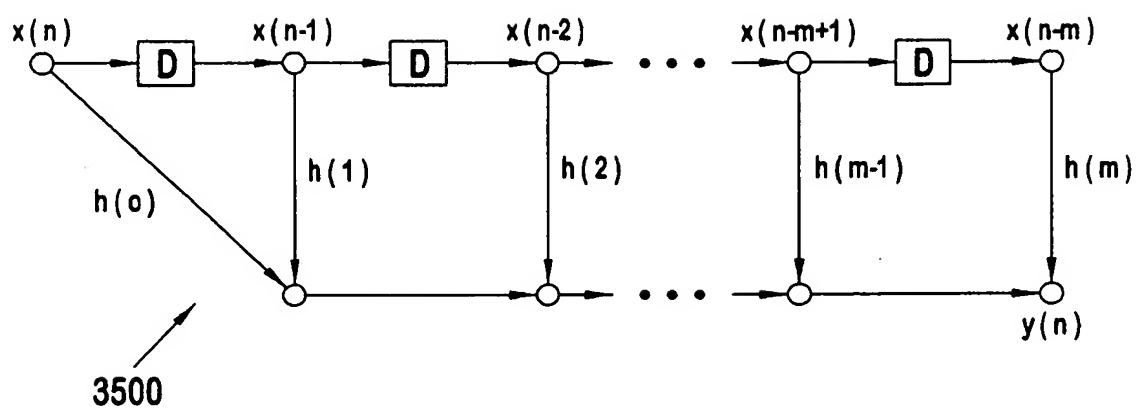


FIG. 36

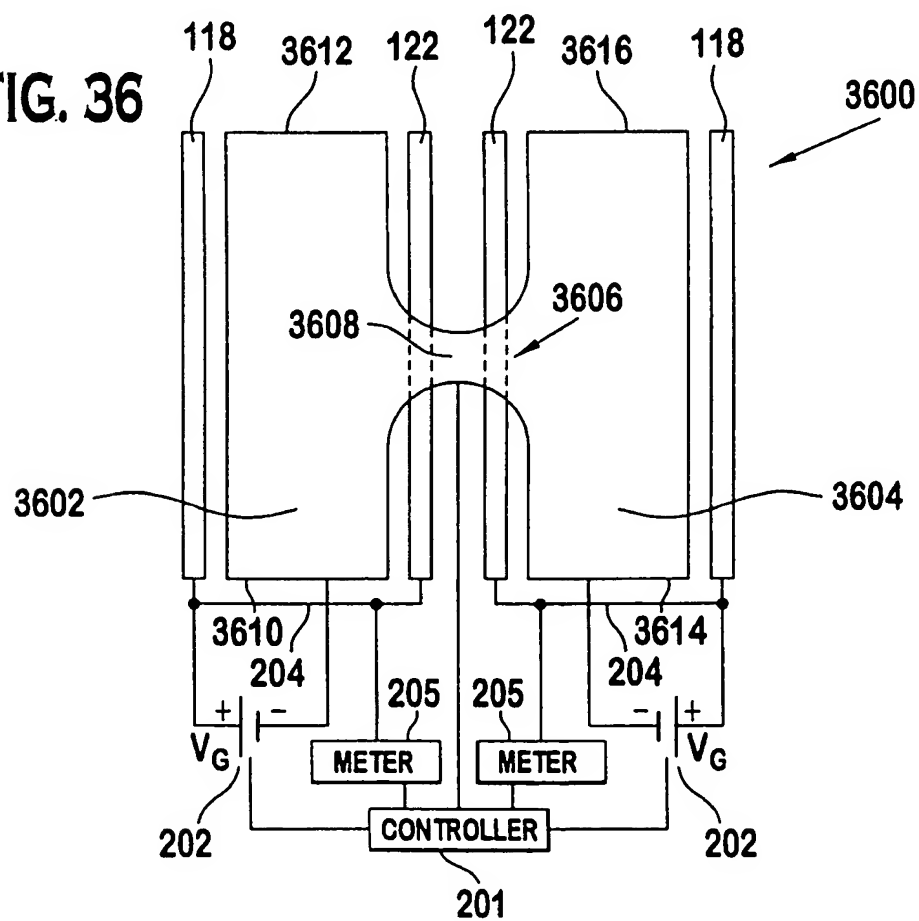


FIG. 37

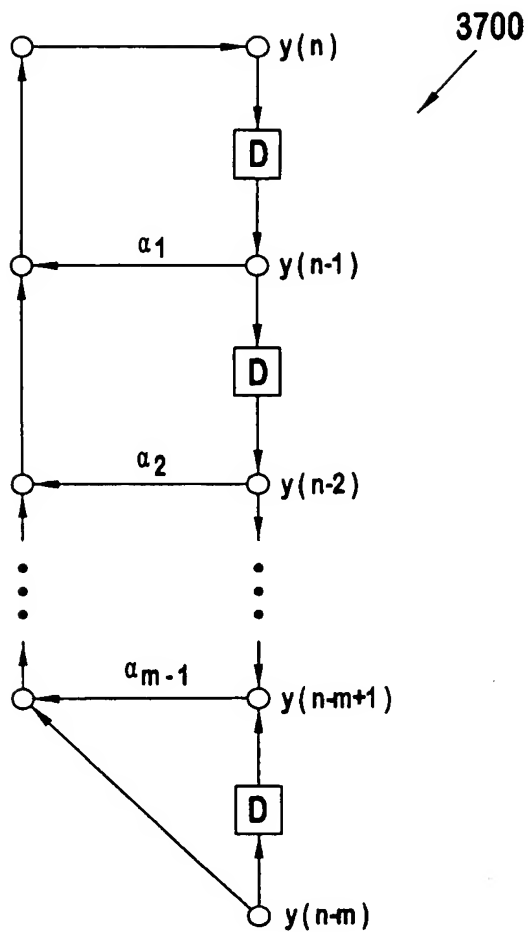


FIG. 38

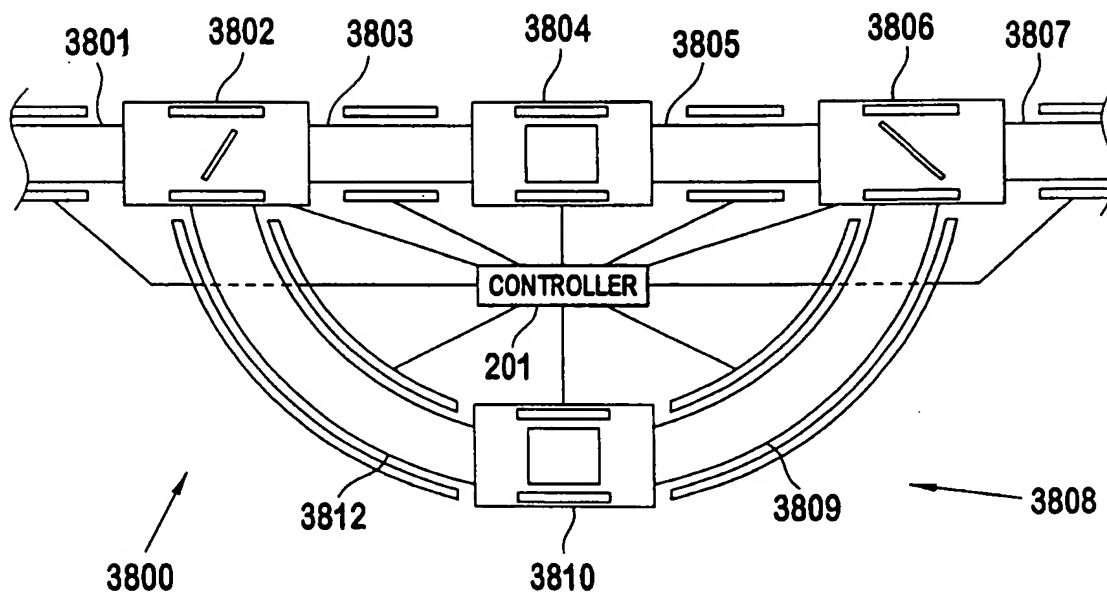


FIG. 39

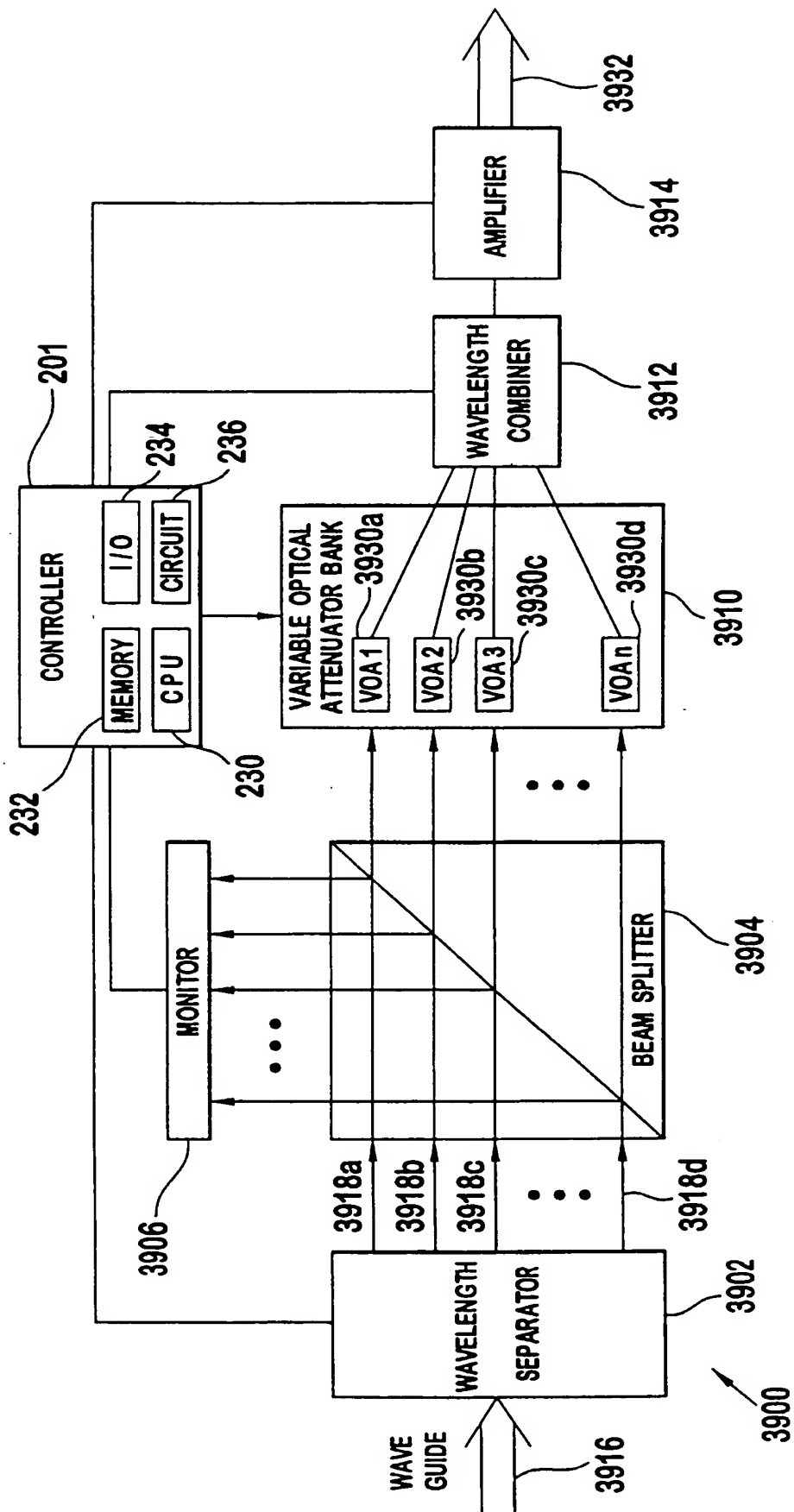


FIG. 40

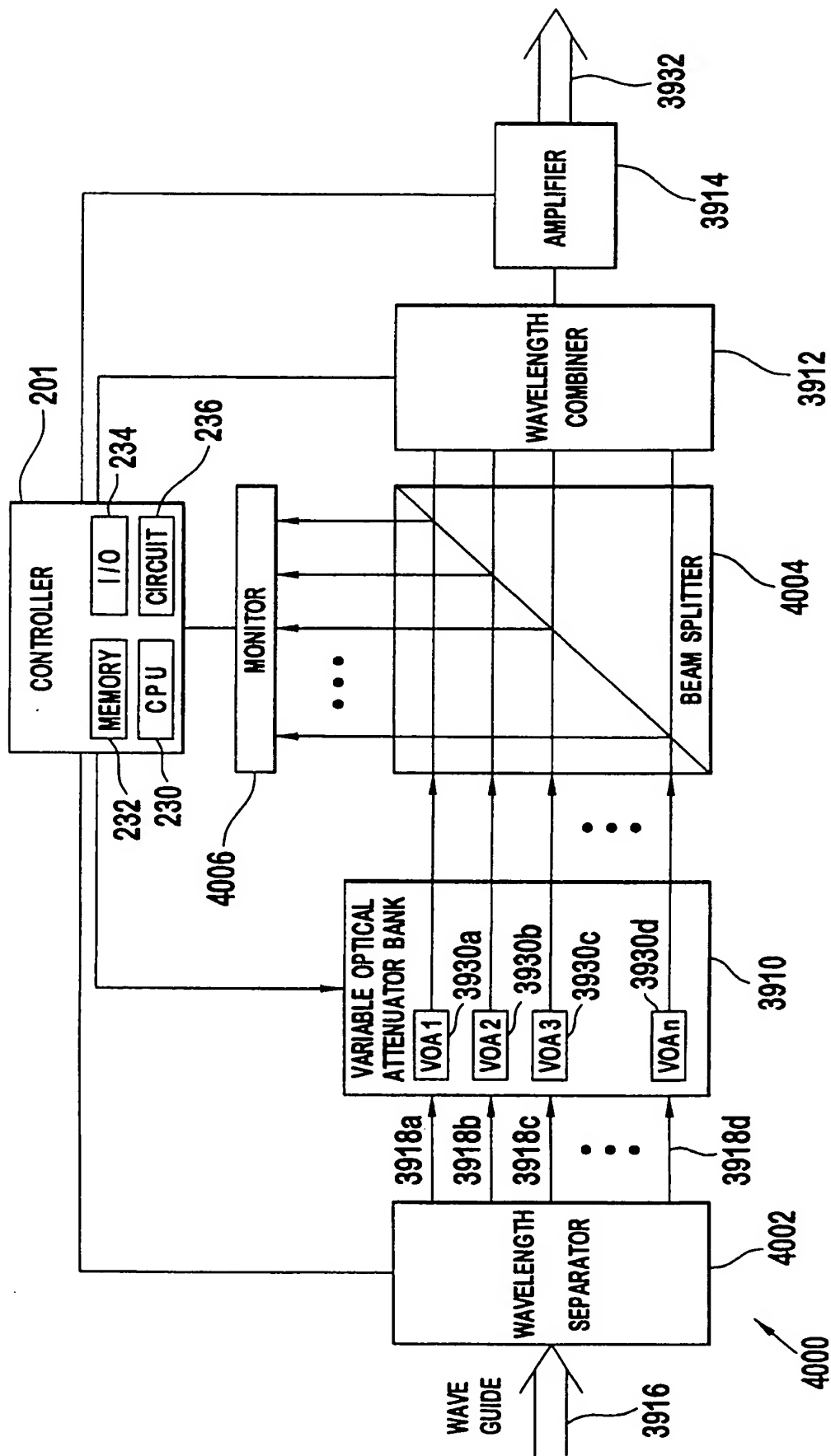


FIG. 41

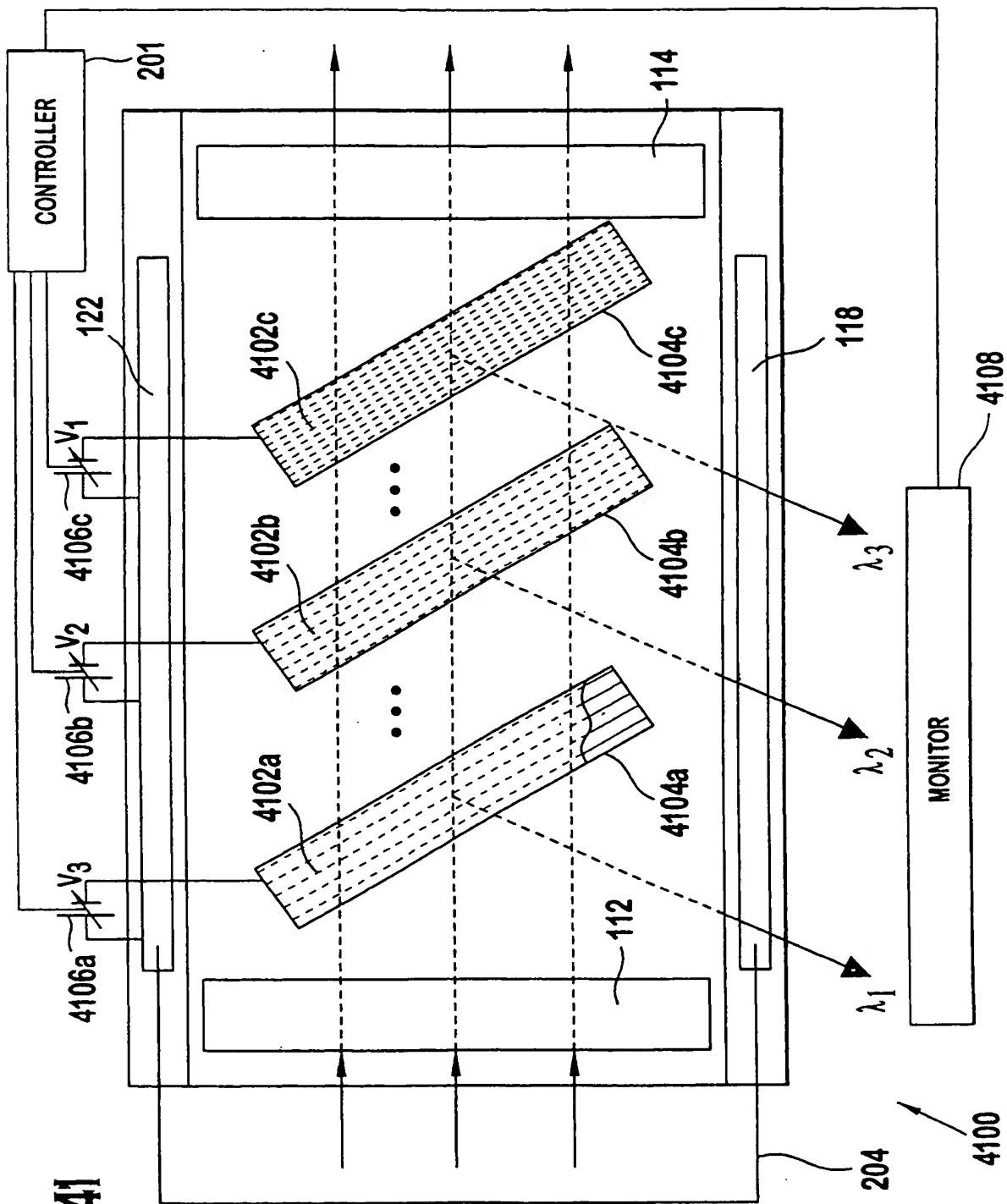


FIG. 42

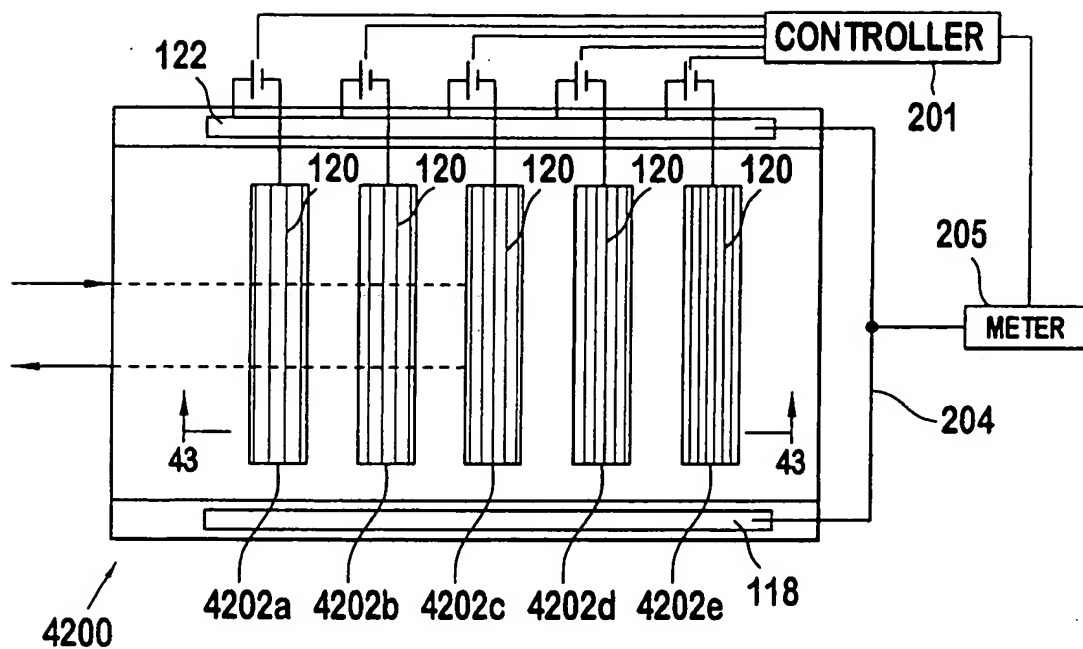
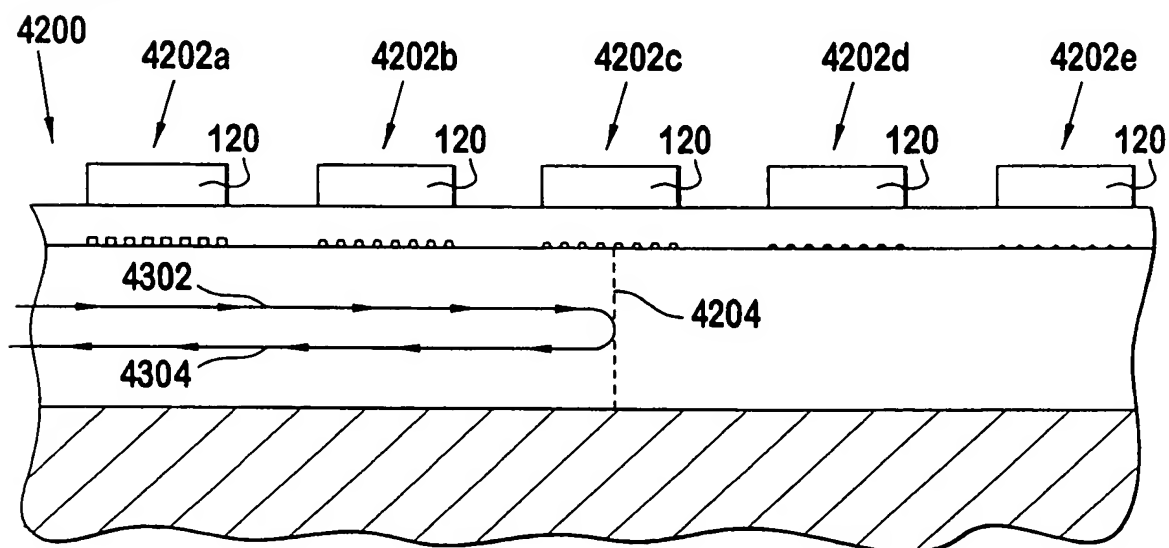


FIG. 43



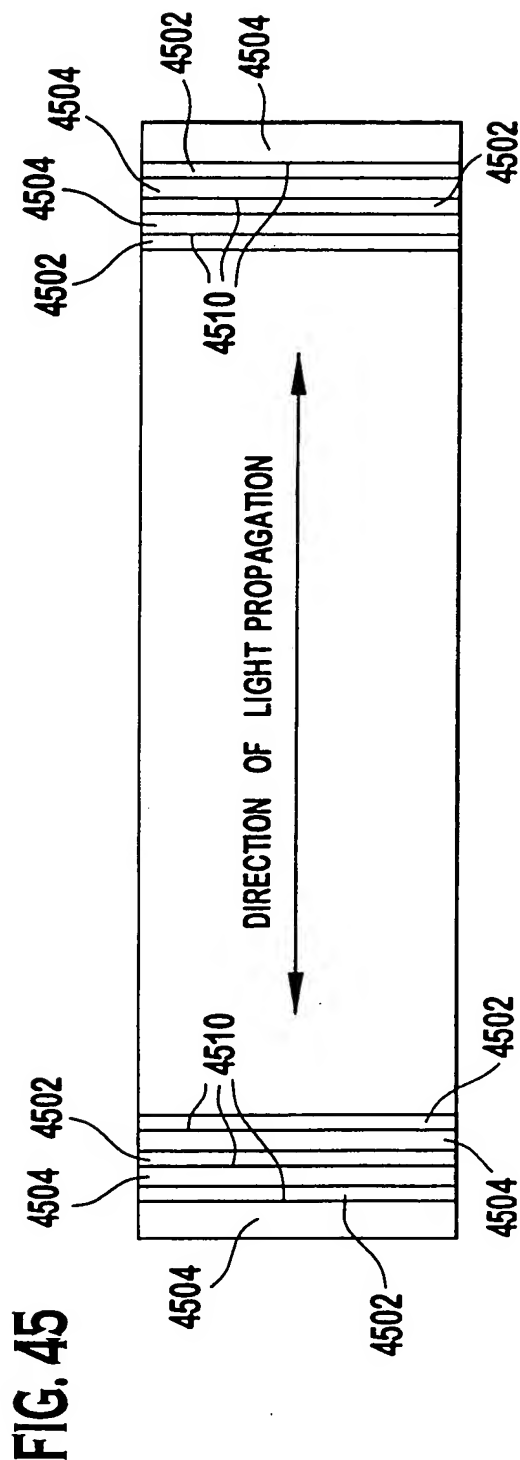
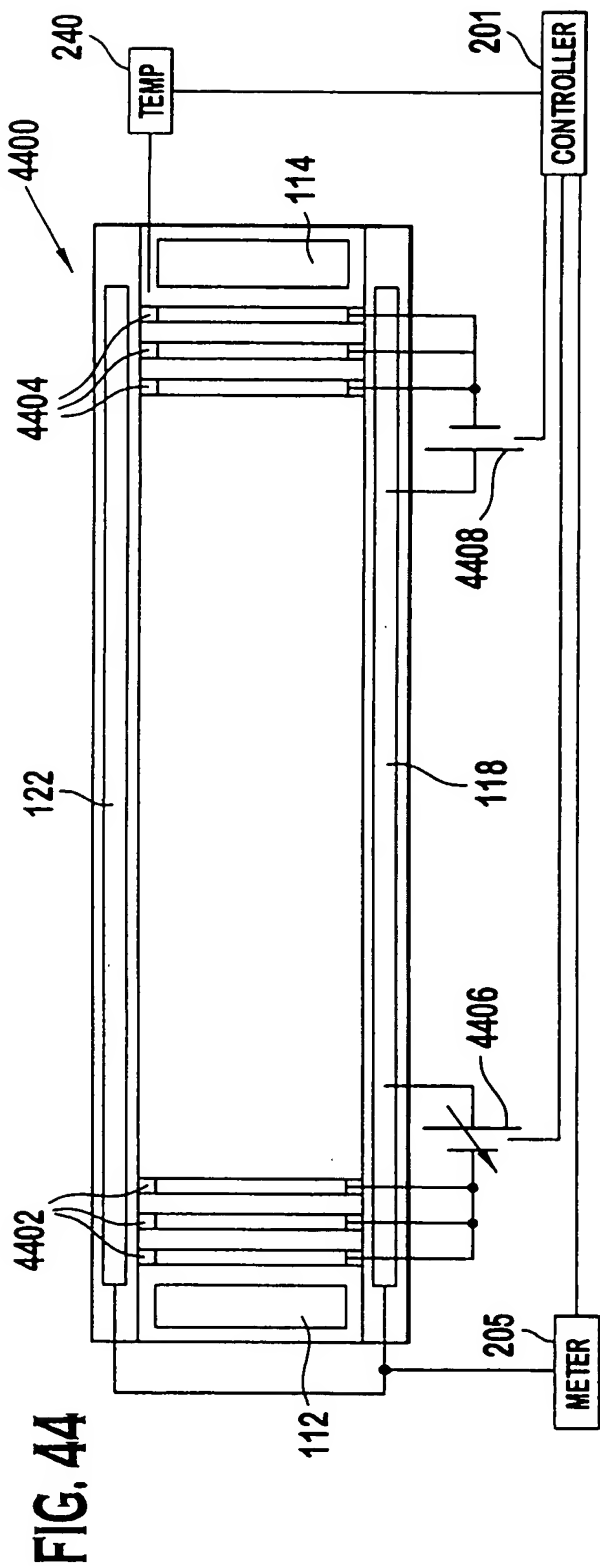
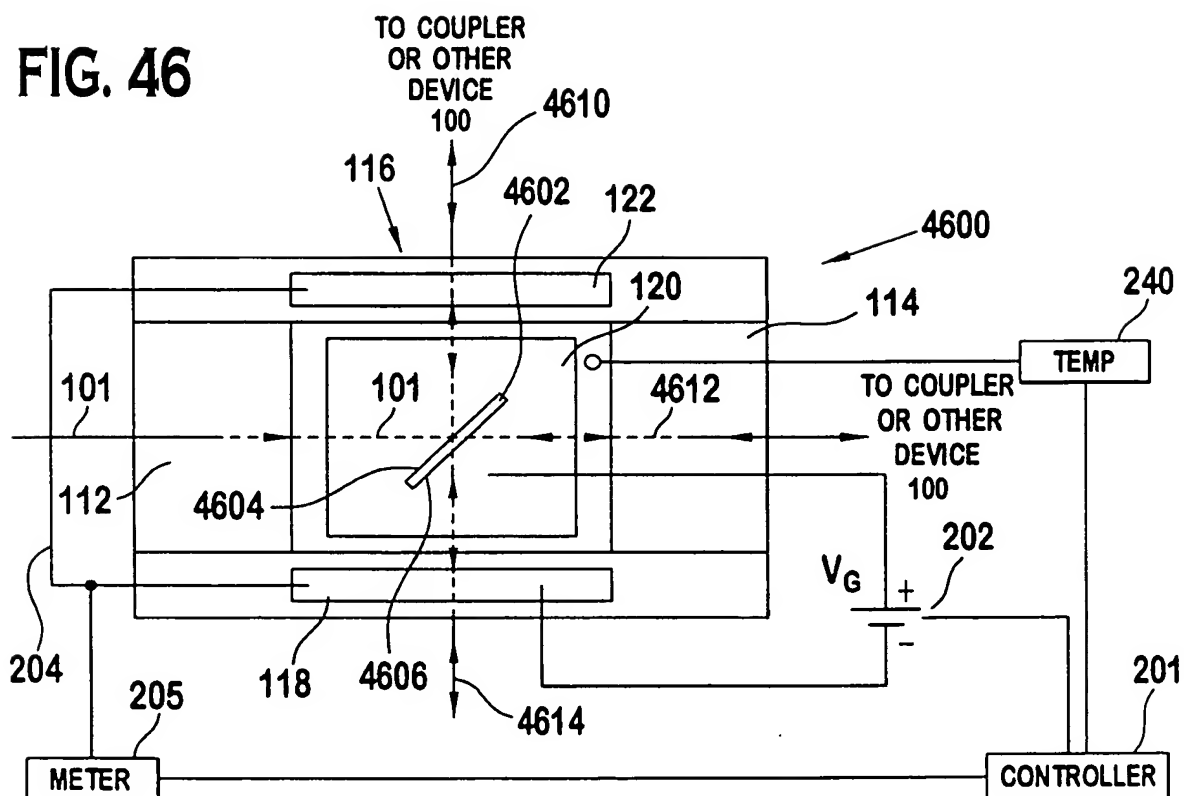


FIG. 46



27/55

FIG. 47

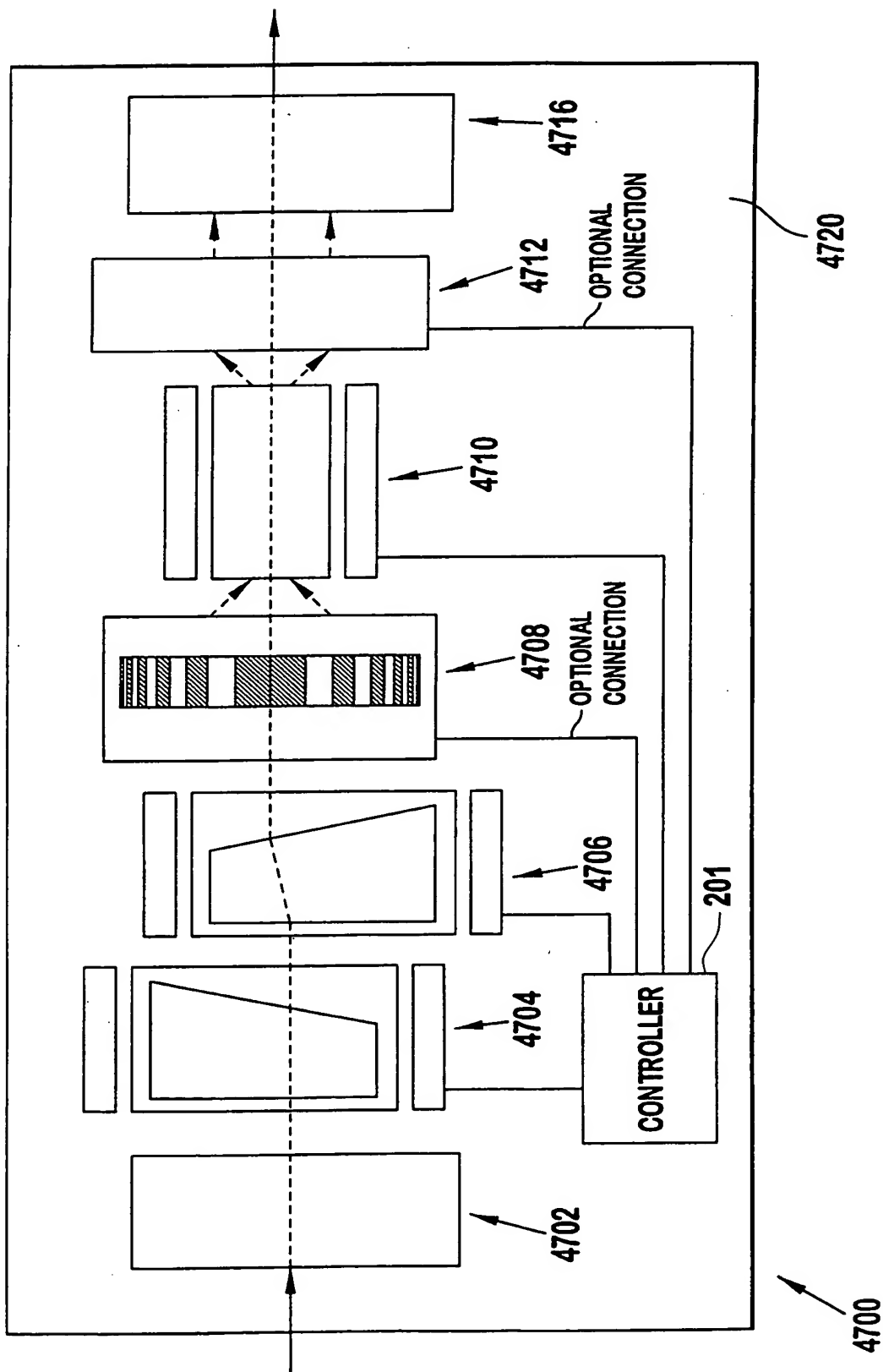




FIG. 48

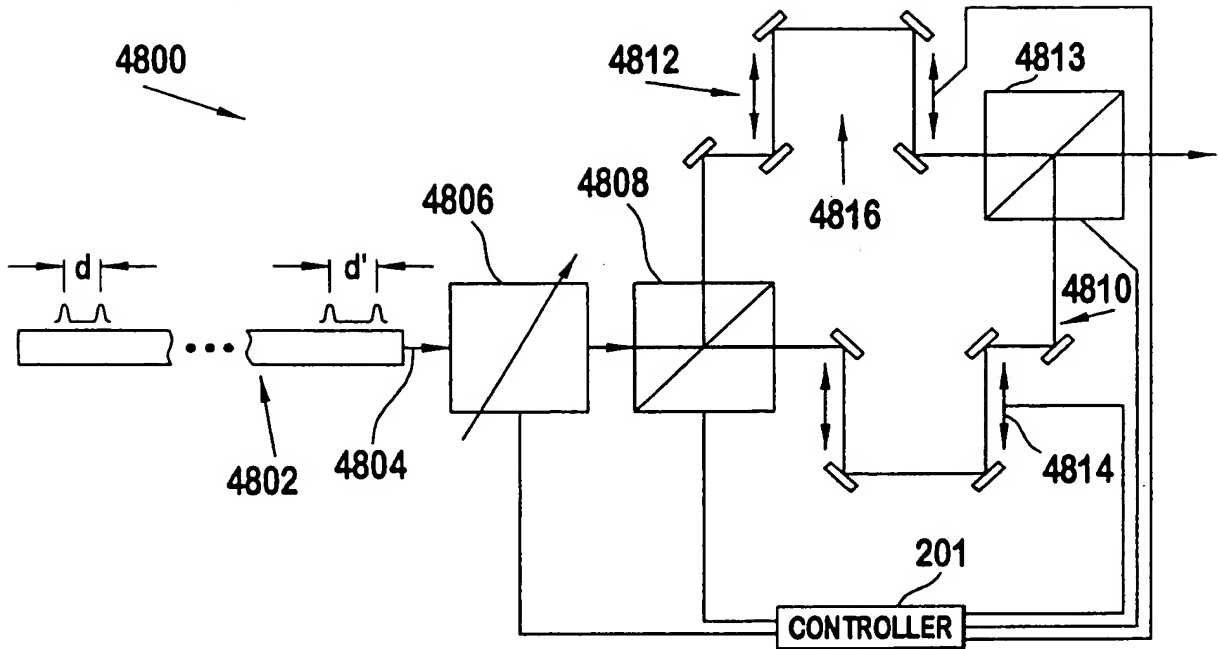
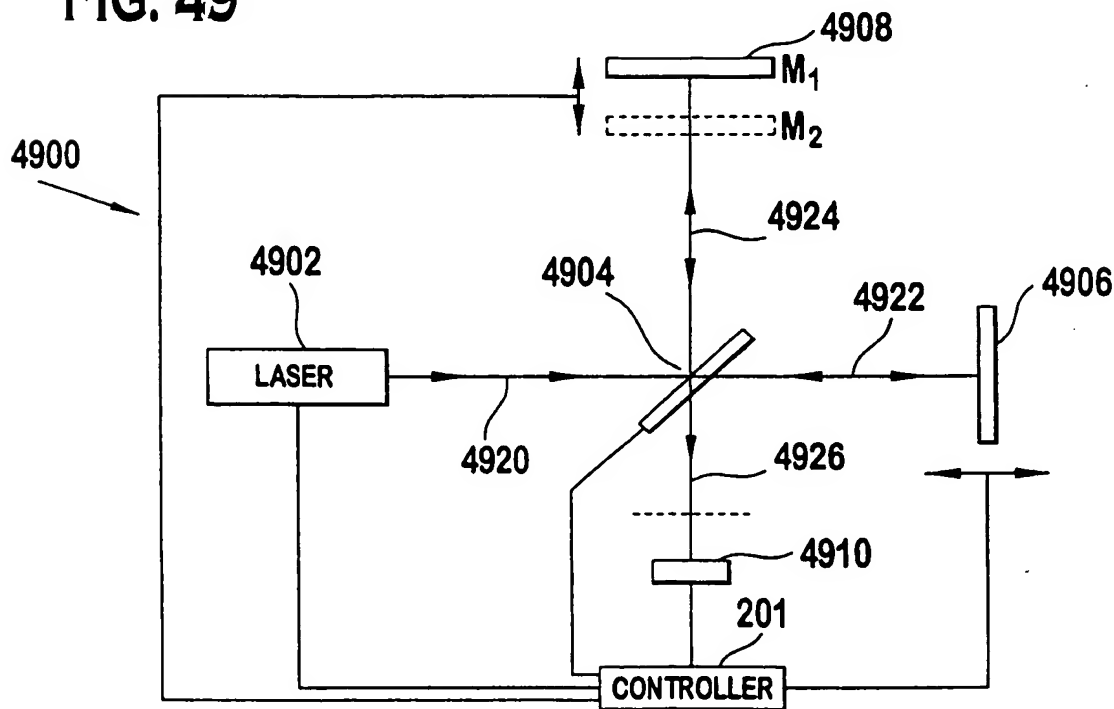


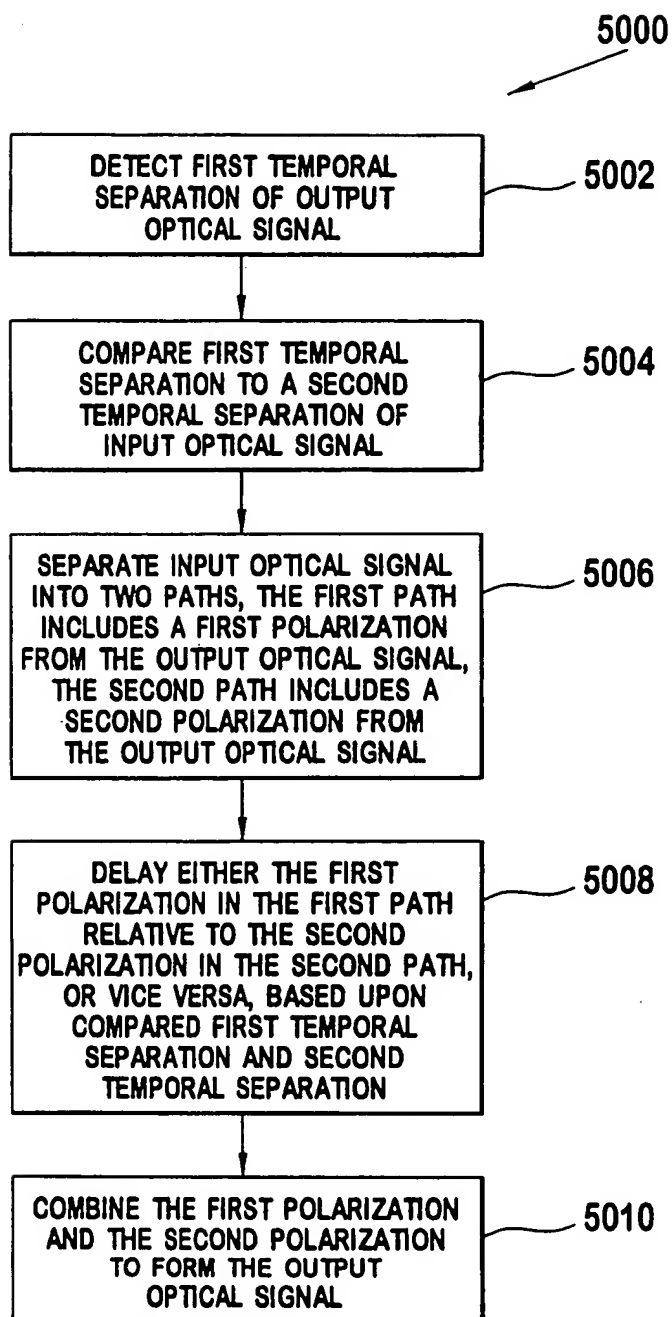
FIG. 49





29/55

FIG. 50



[illegible]

FIG. 52

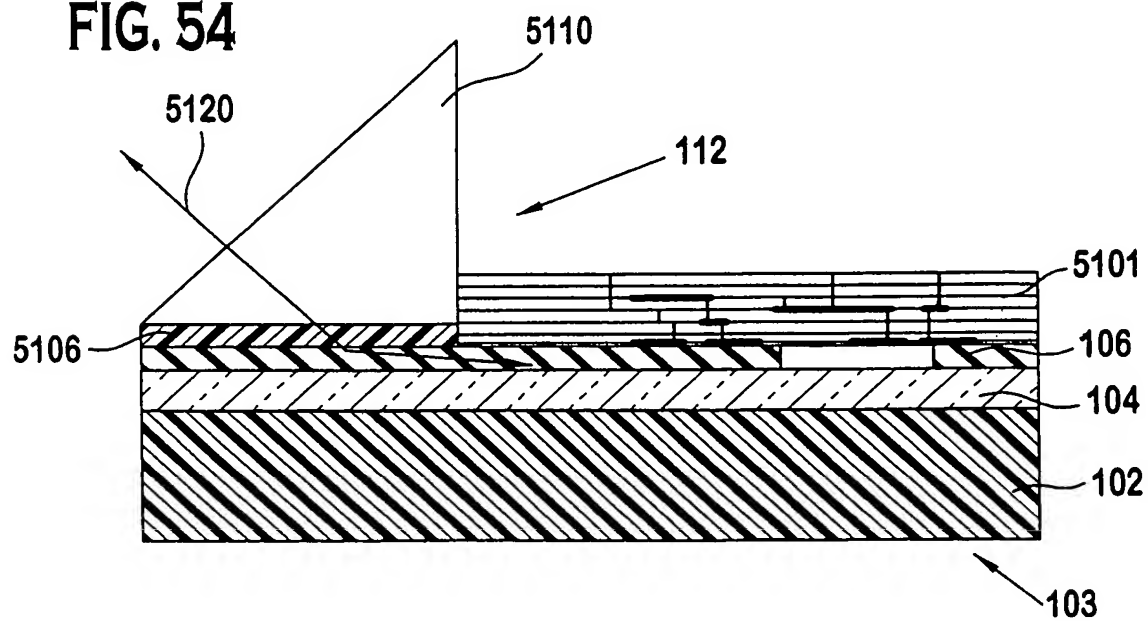
103

112

REGIONS OF
OPTICAL INPUT
OR OUTPUT

ELECTRONIC AND
ON-CHIP
PHOTONICS
5101

ELECTRICAL INPUT
OR OUTPUT
REGION
5103



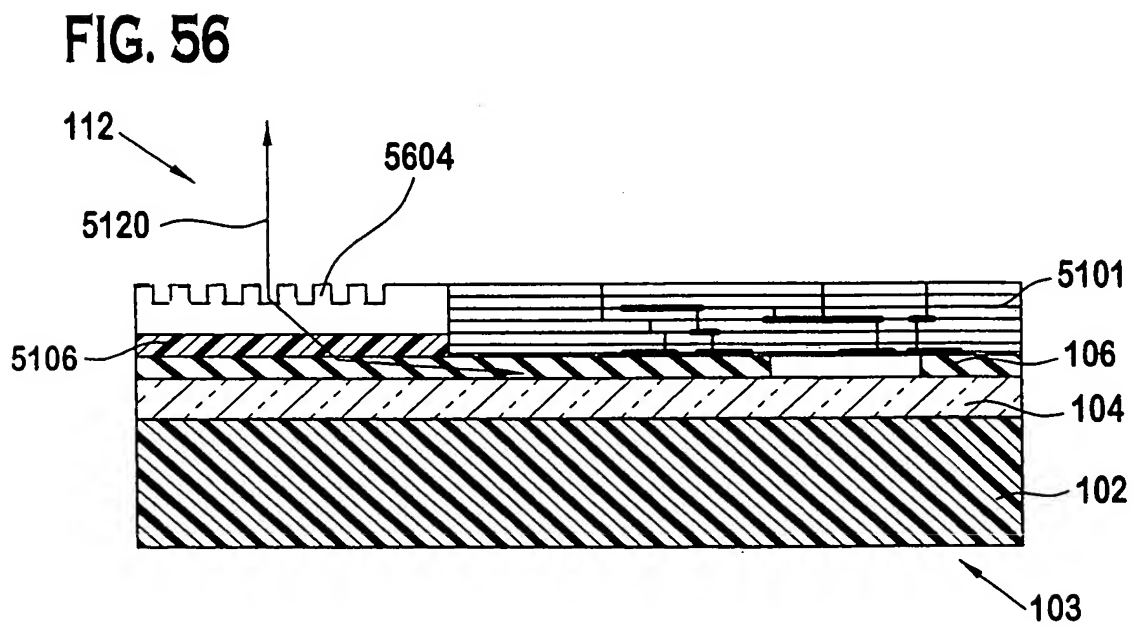
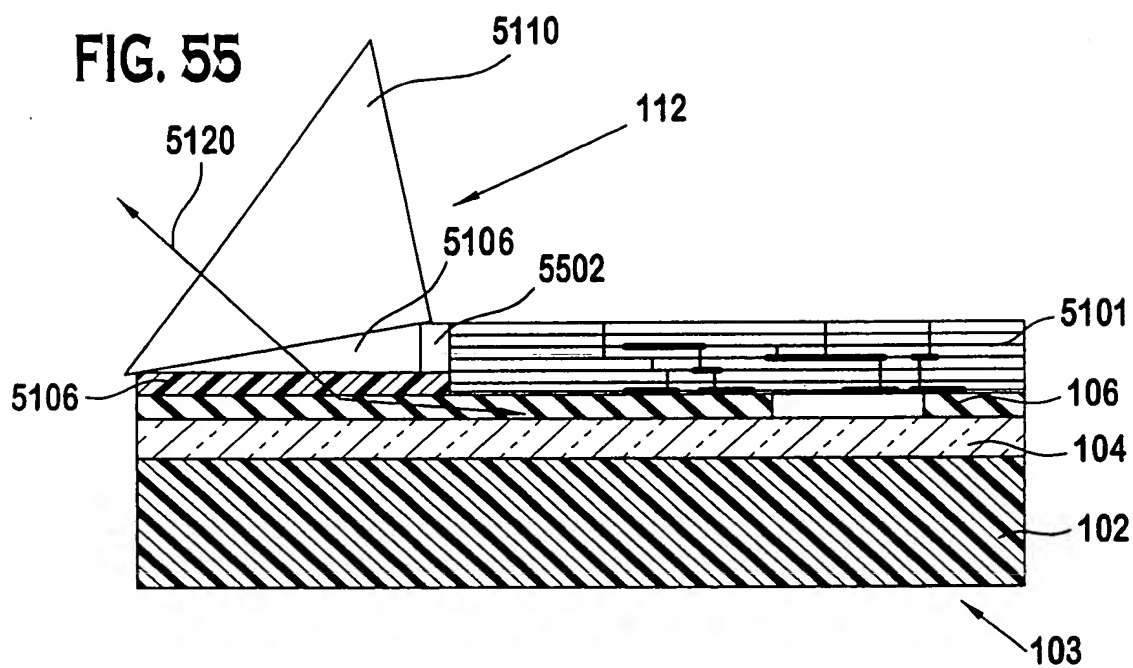


FIG. 57

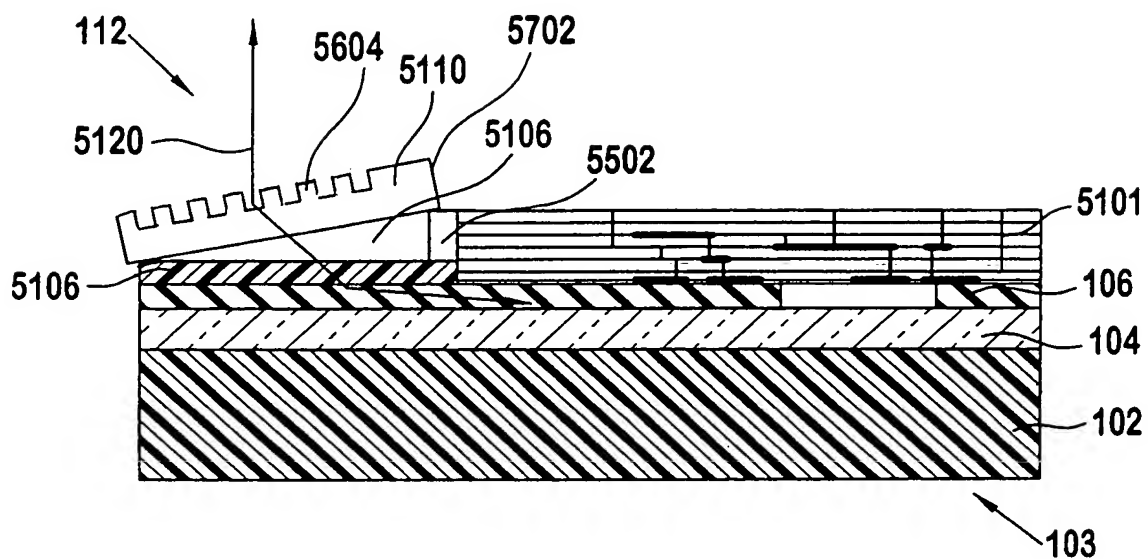
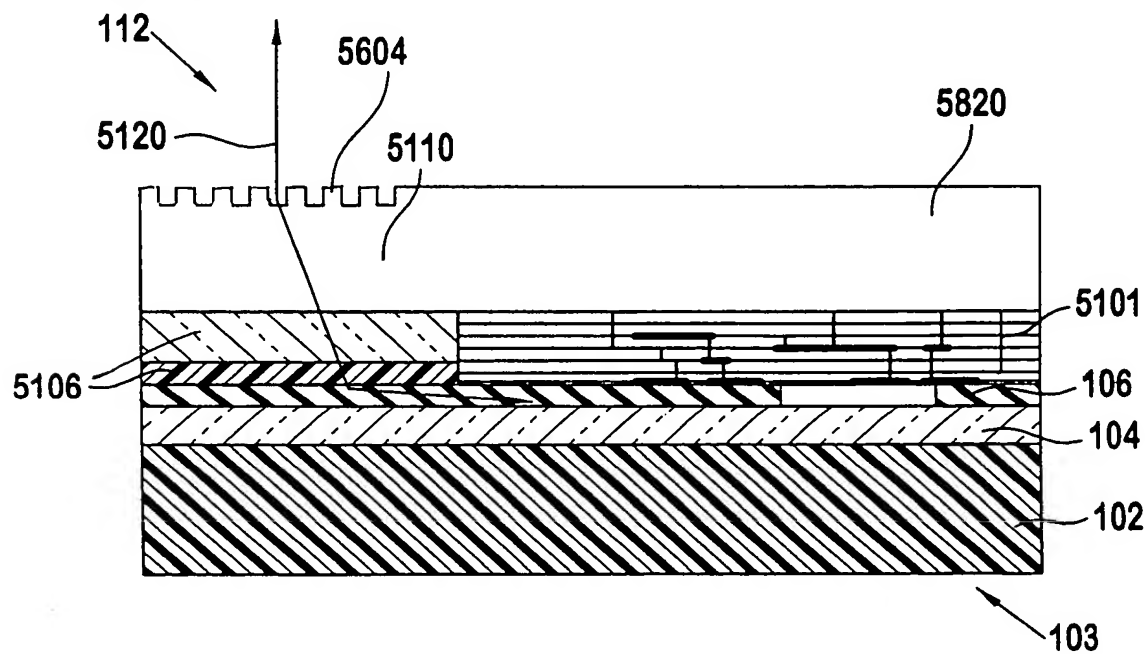


FIG. 58



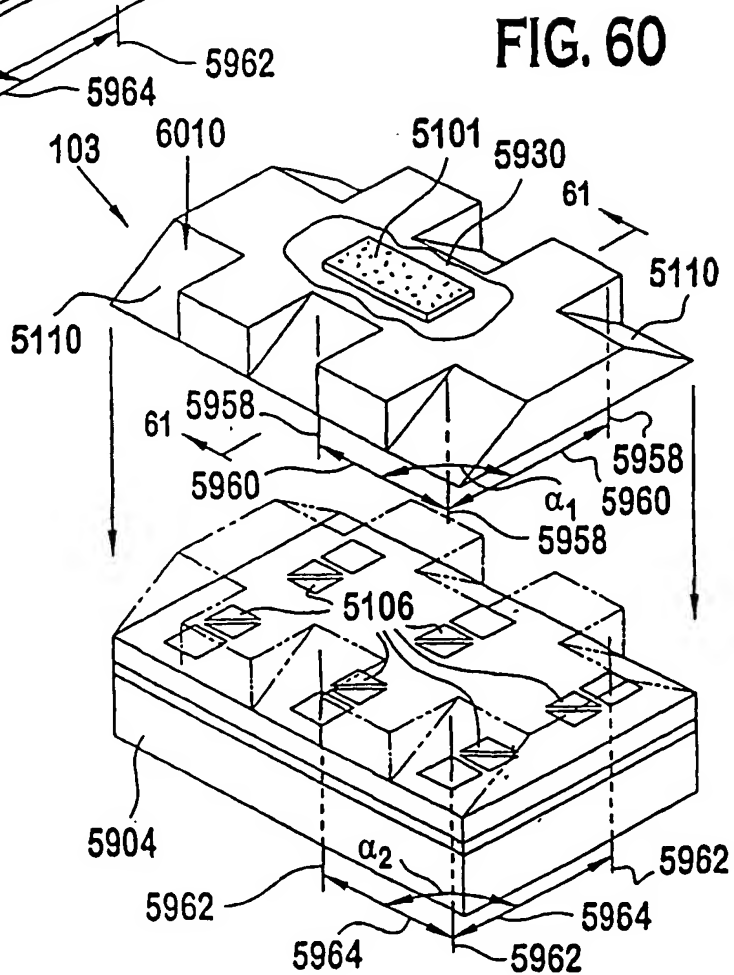
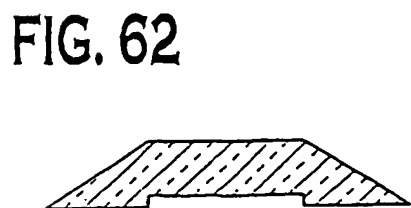
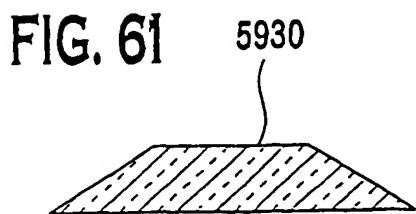
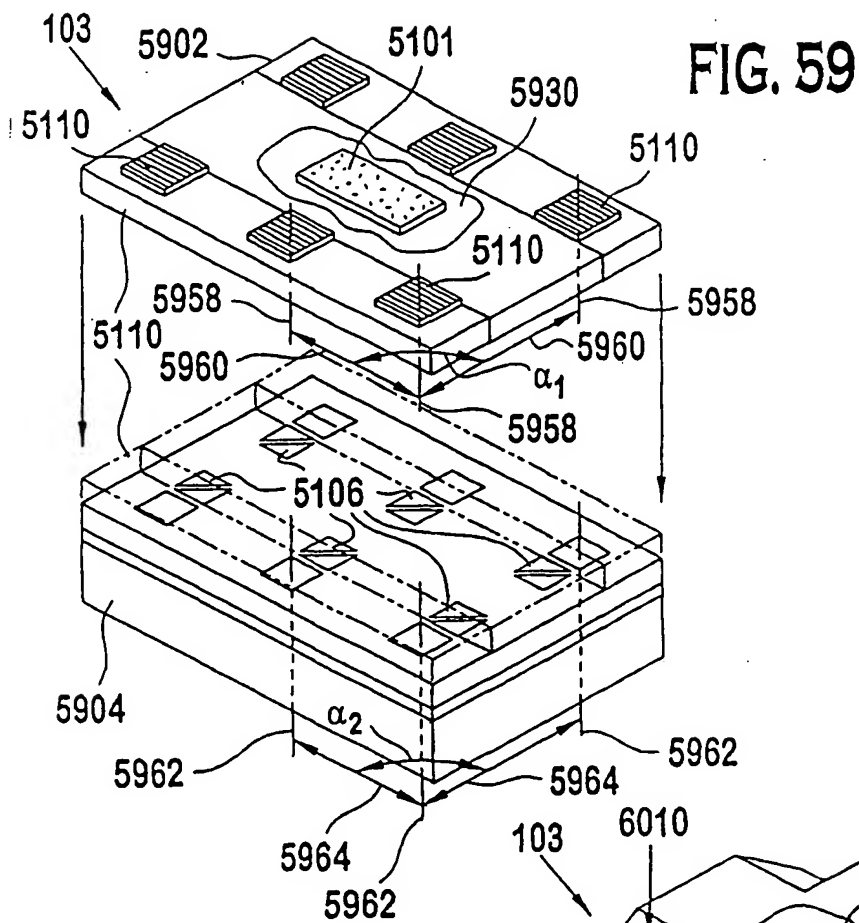


FIG. 63A

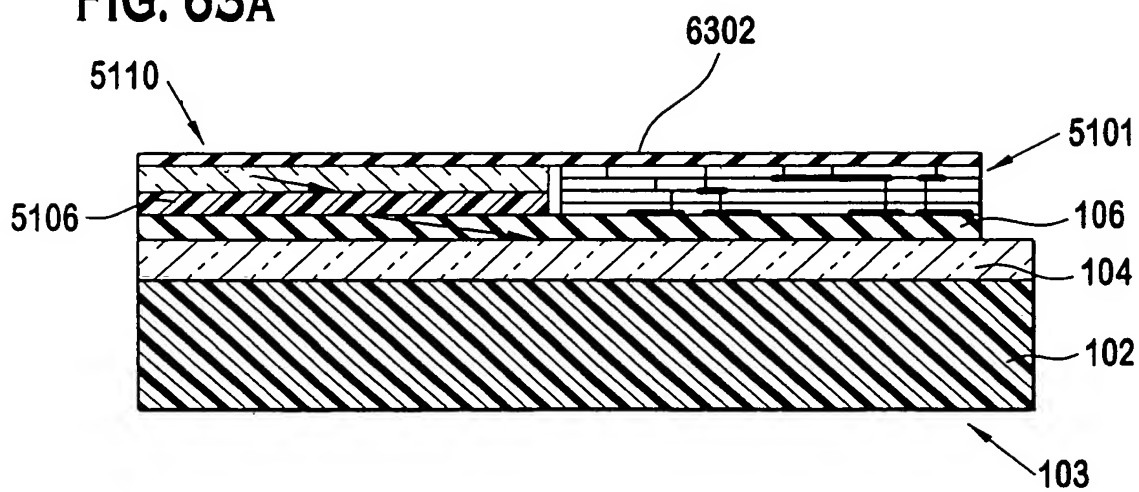
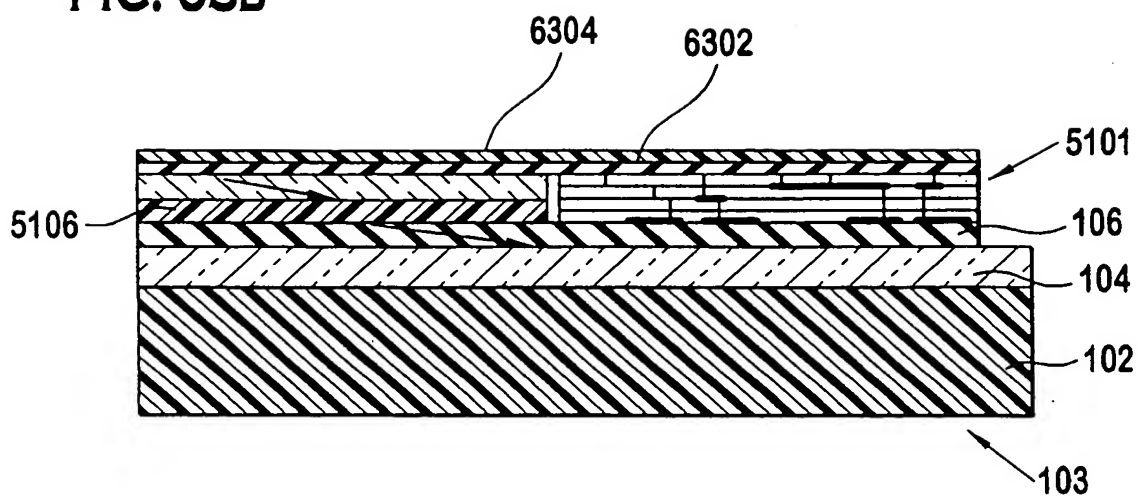


FIG. 63B





36/55

FIG. 63c

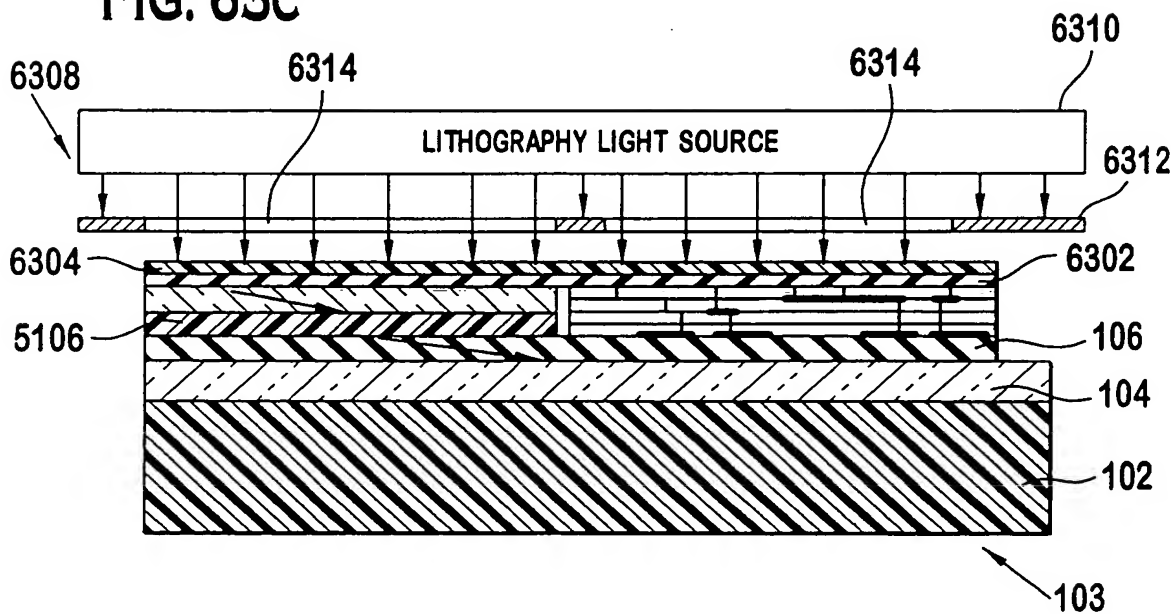


FIG. 63D

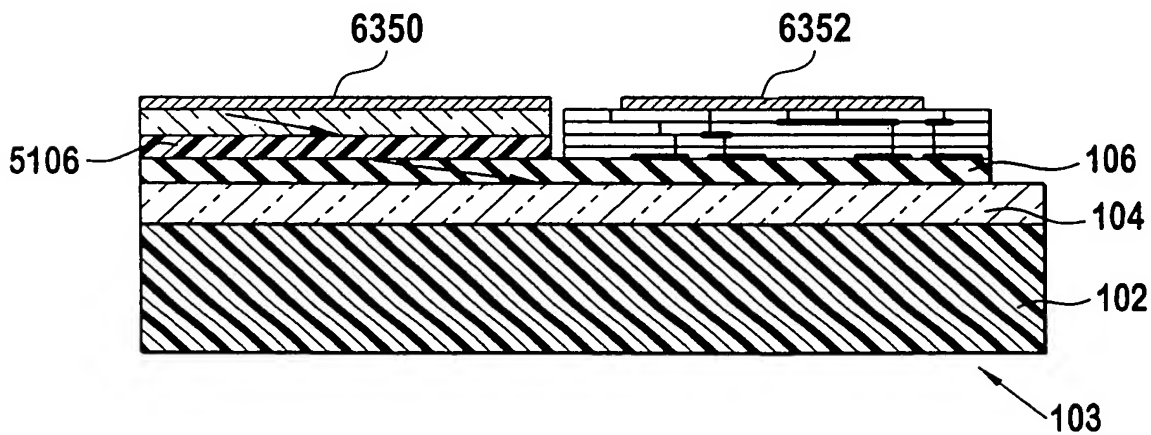


FIG. 64

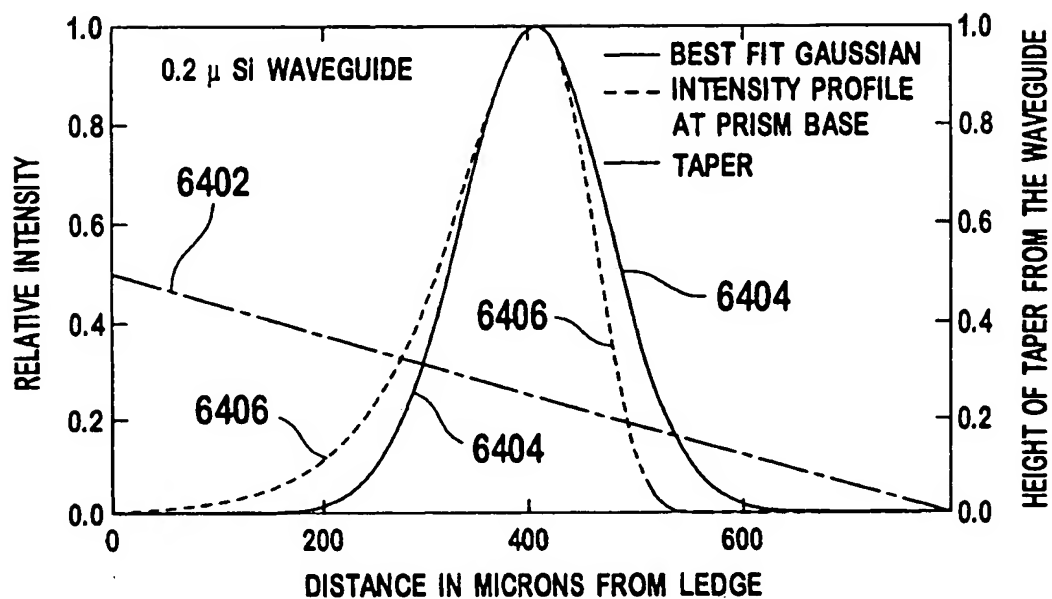


FIG. 65

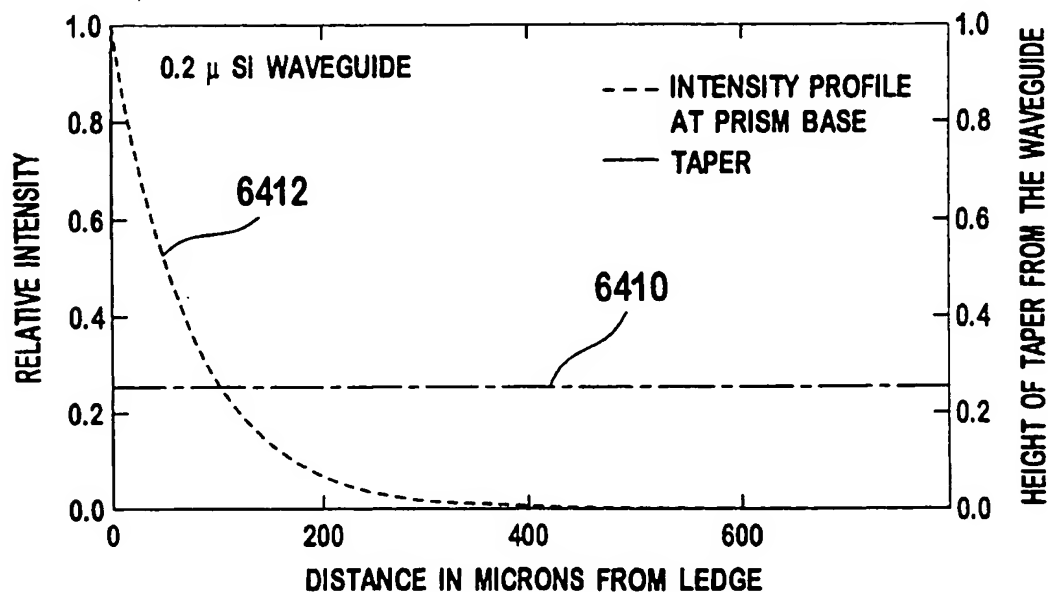


FIG. 66

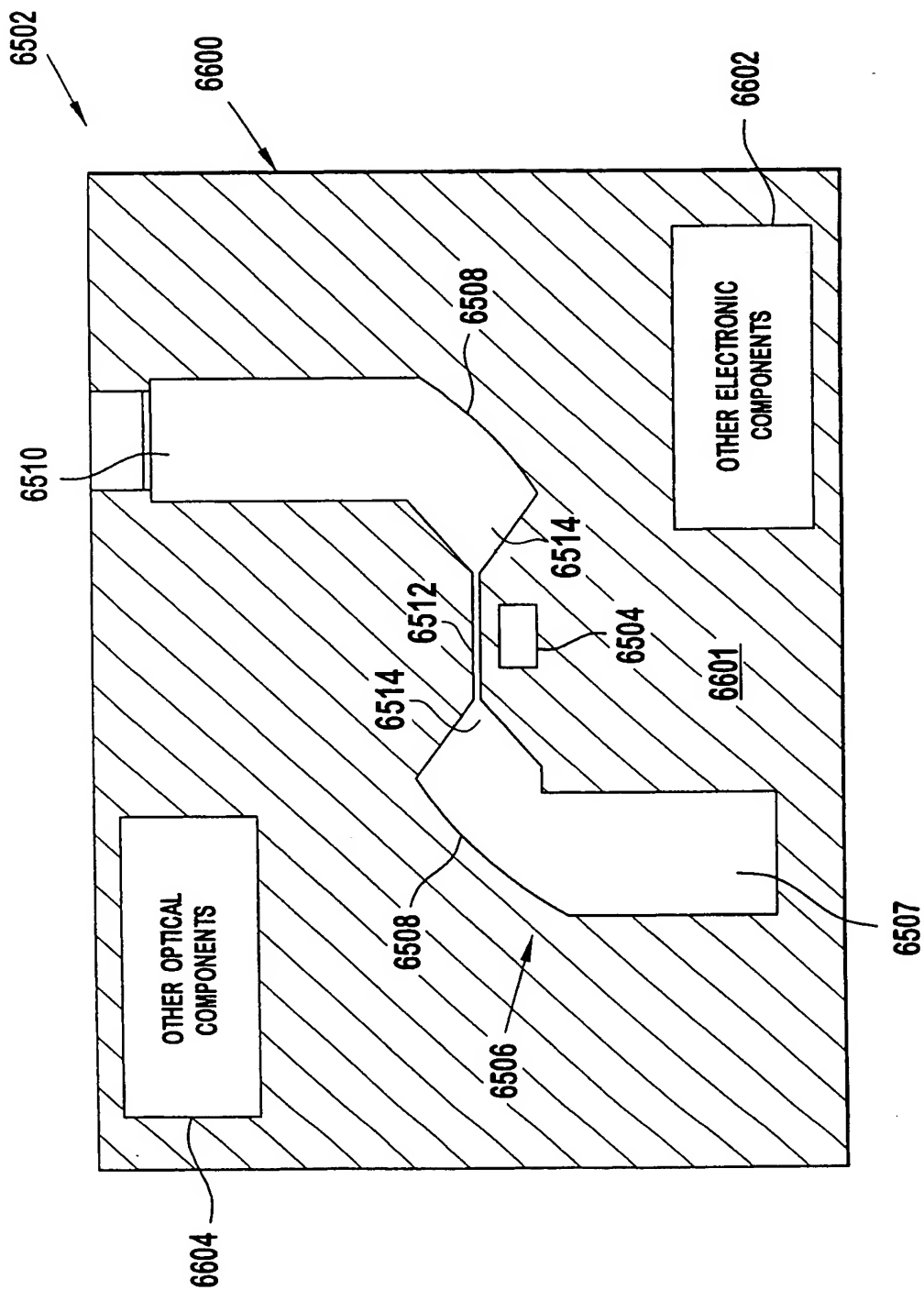




FIG. 67

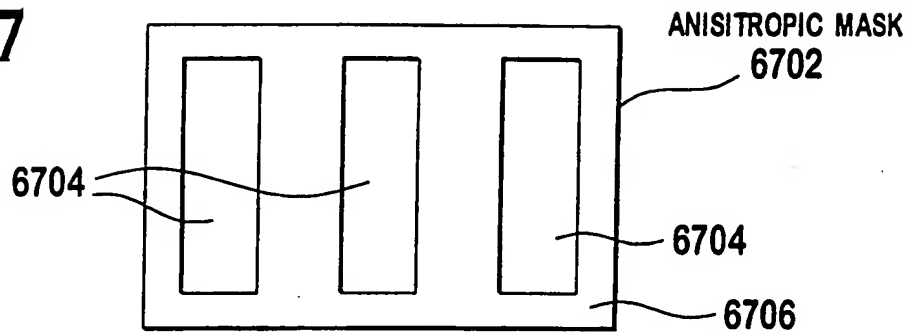


FIG. 68A



FIG. 68B

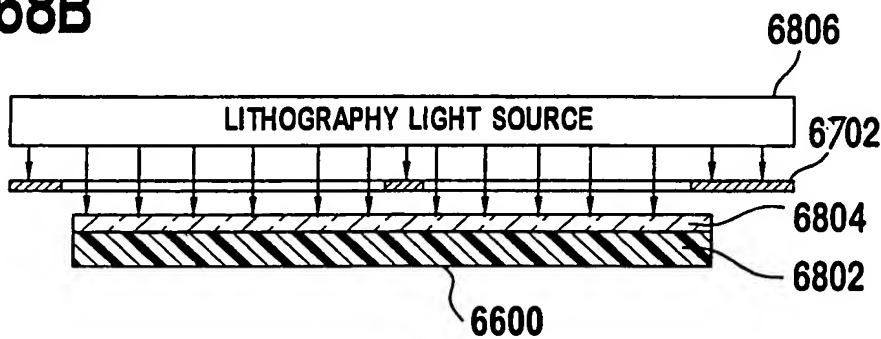


FIG. 68C

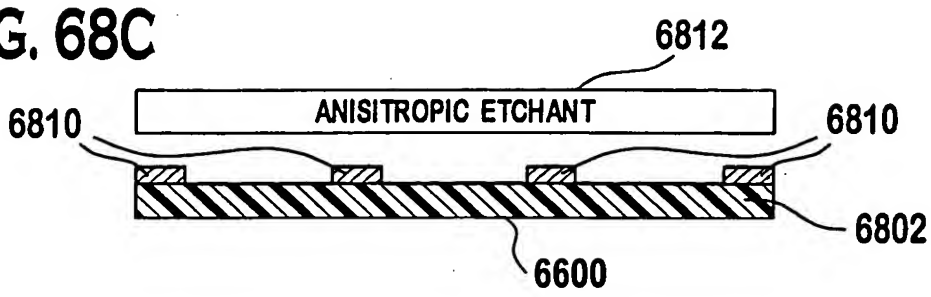


FIG. 68D

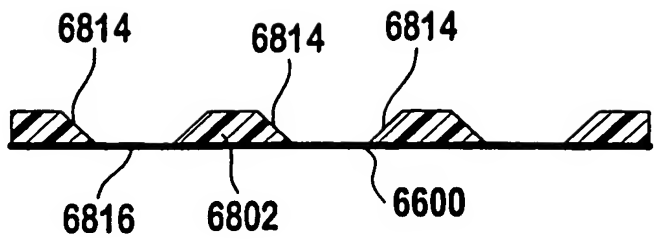


FIG. 69

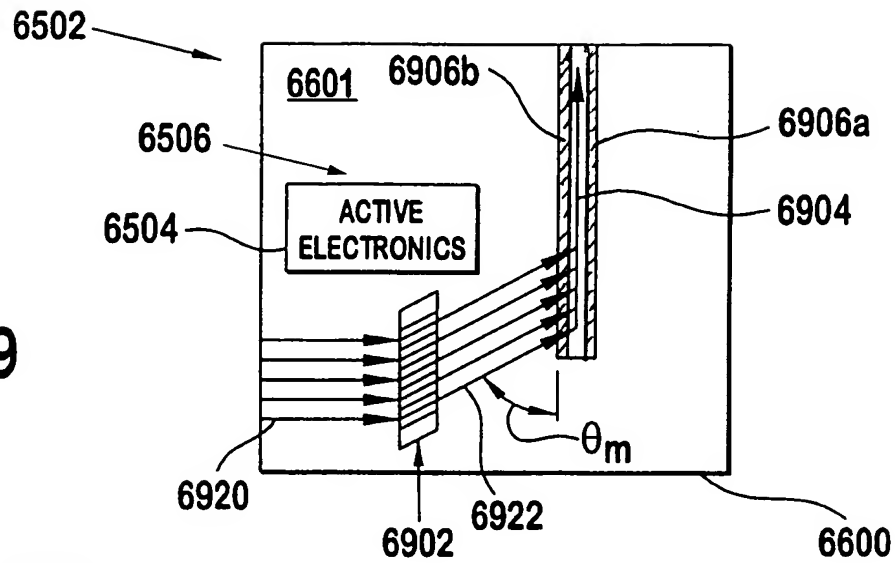


FIG. 70

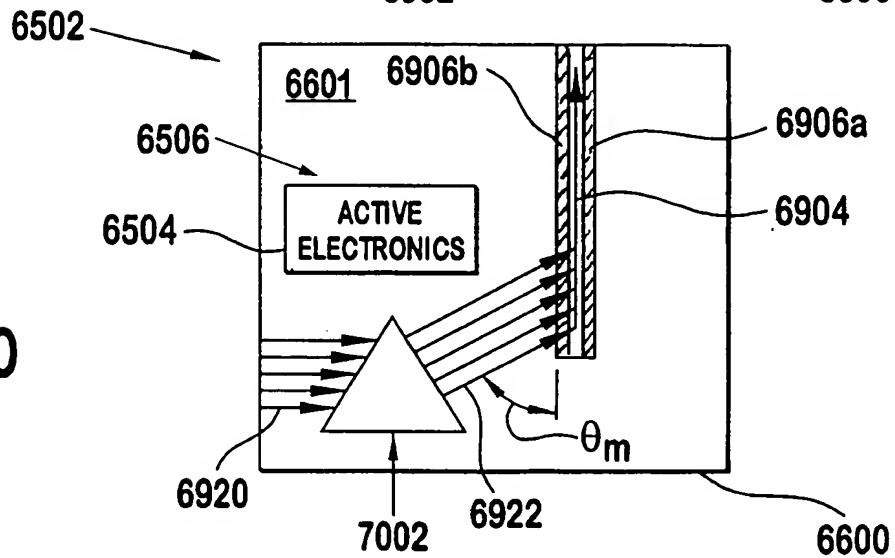


FIG. 71

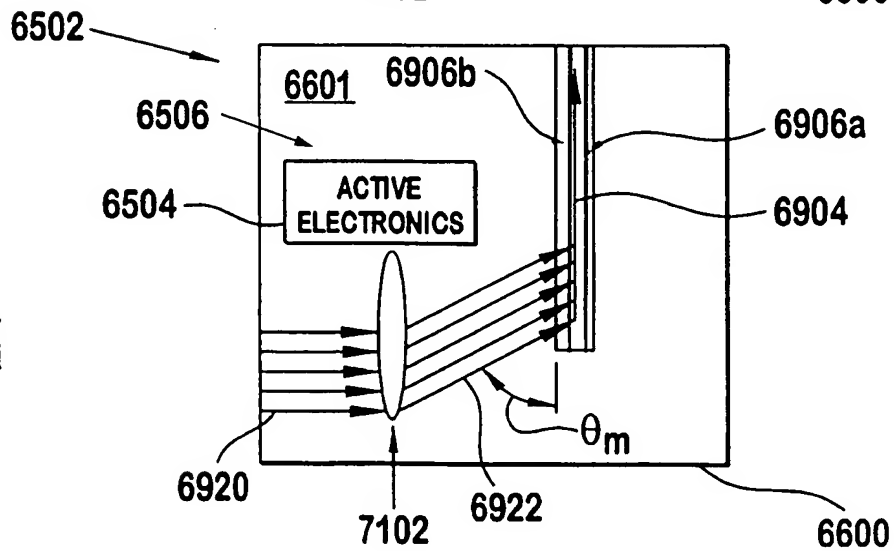
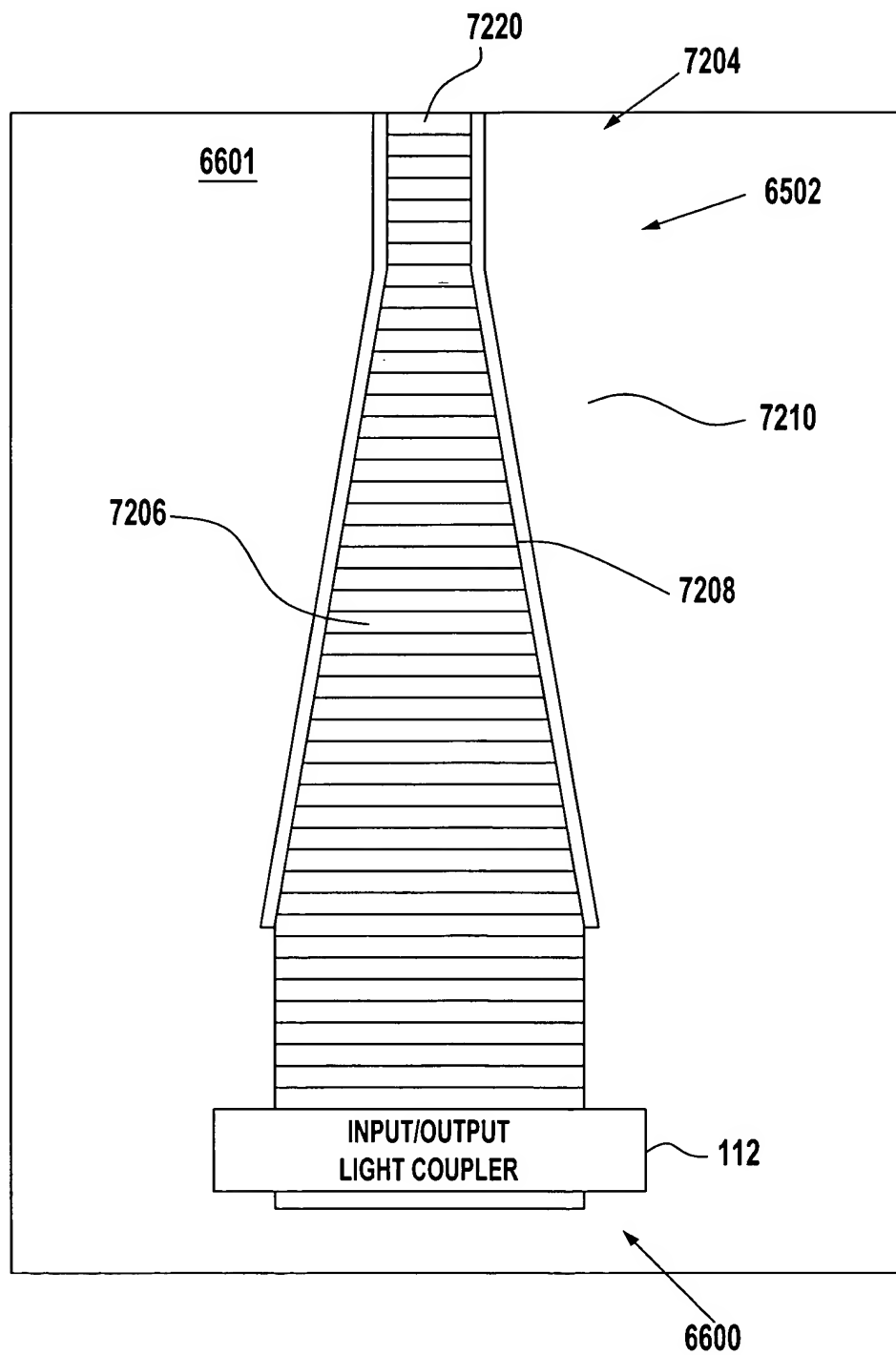


FIG. 72



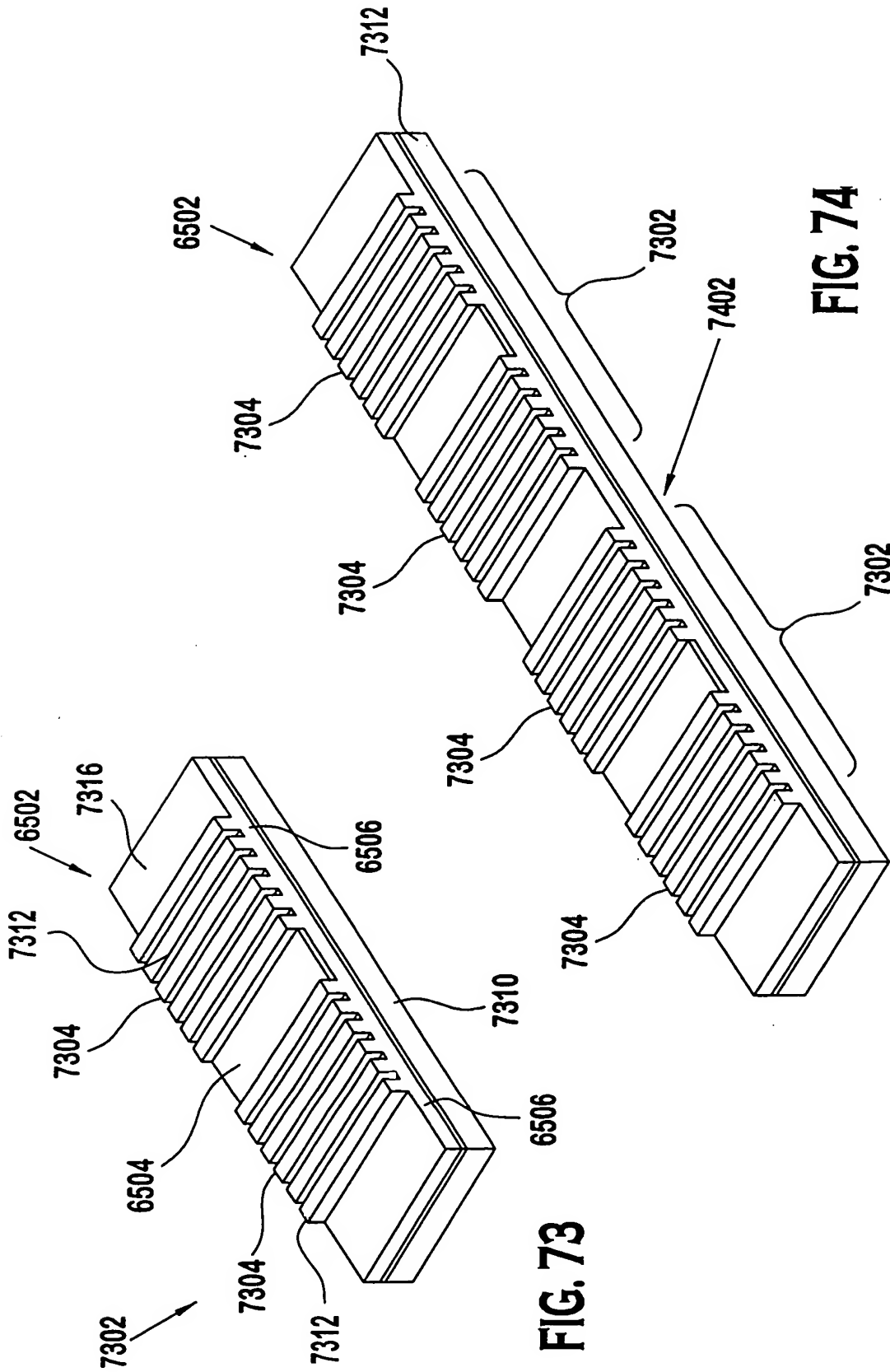


FIG. 73

FIG. 74



FIG. 75

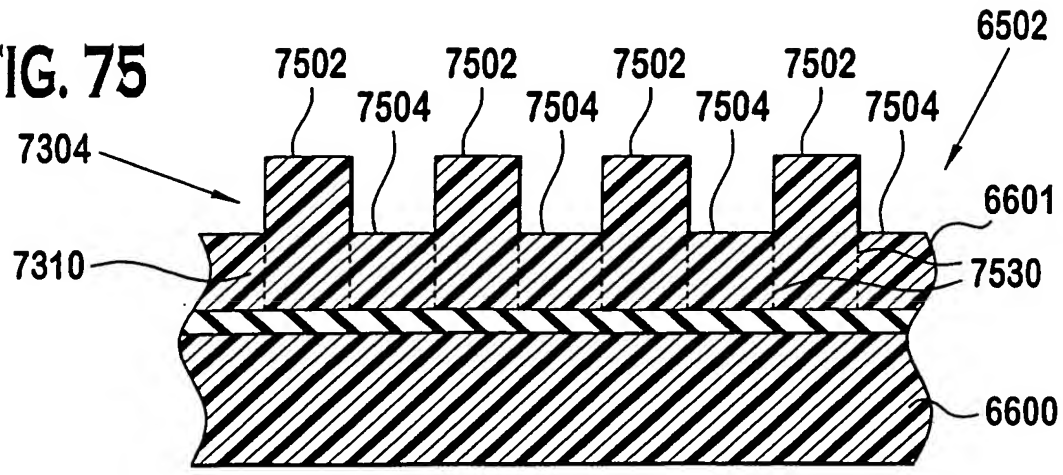


FIG. 76

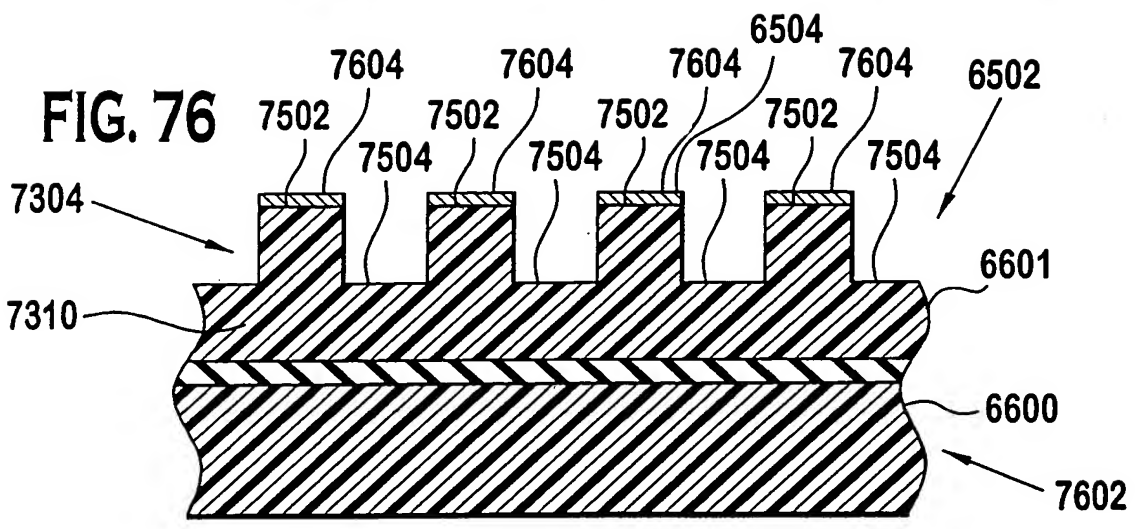
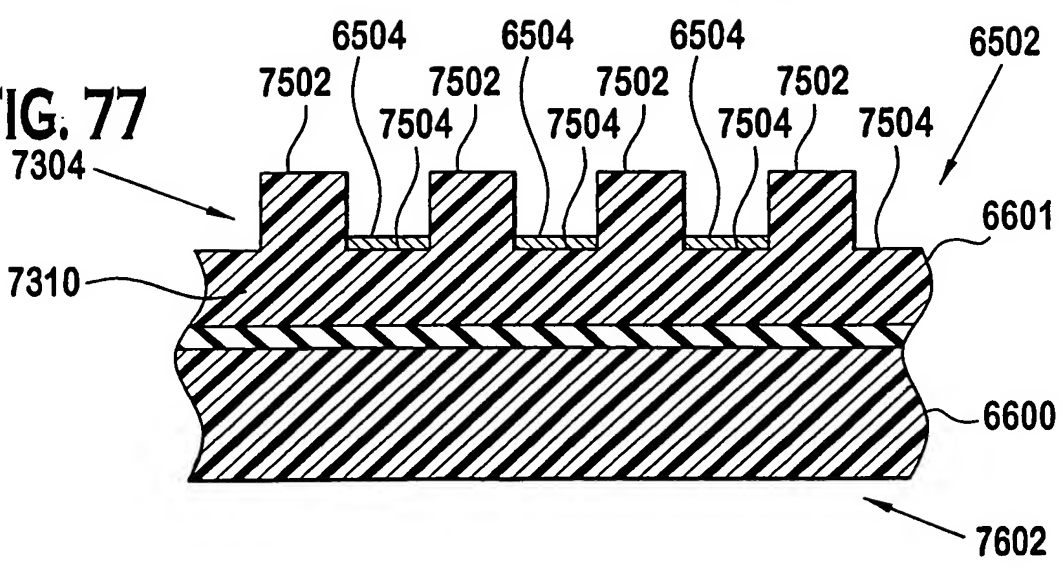


FIG. 77



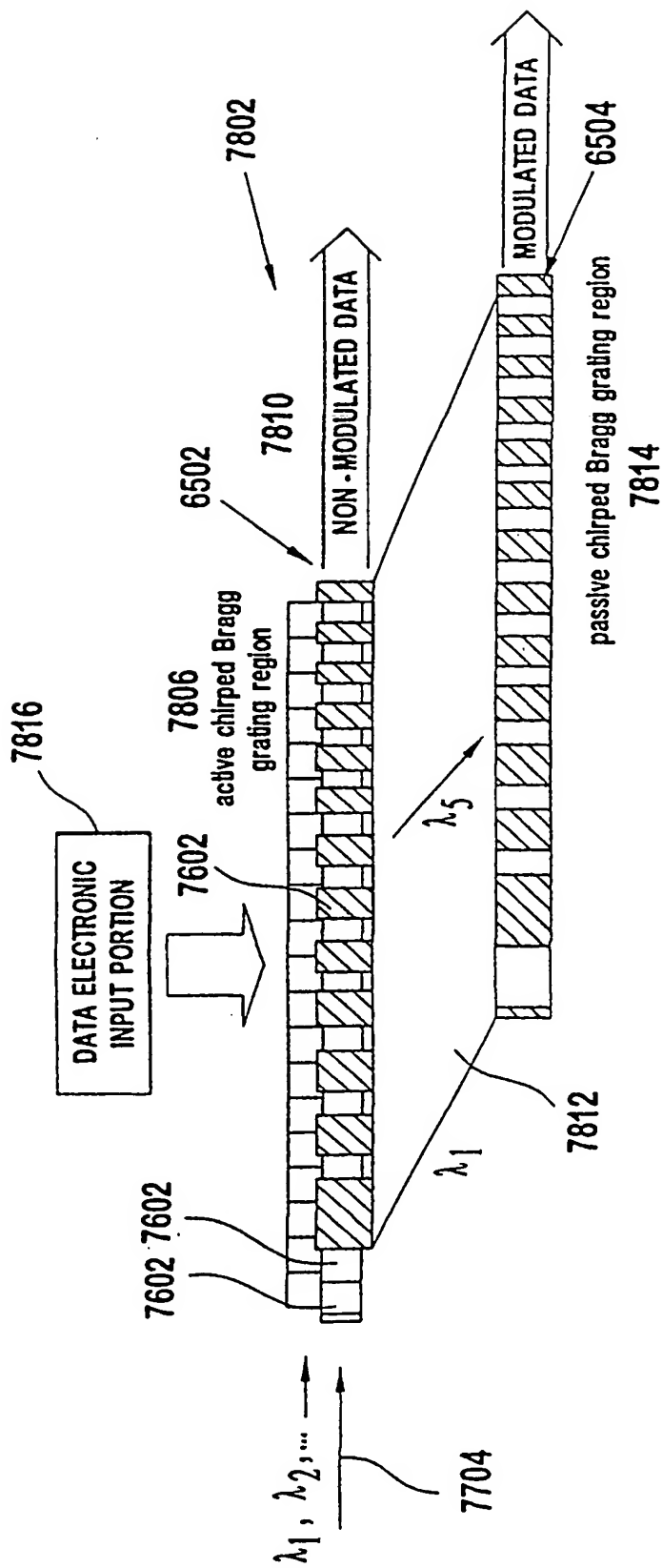


FIG. 78

FIG. 79

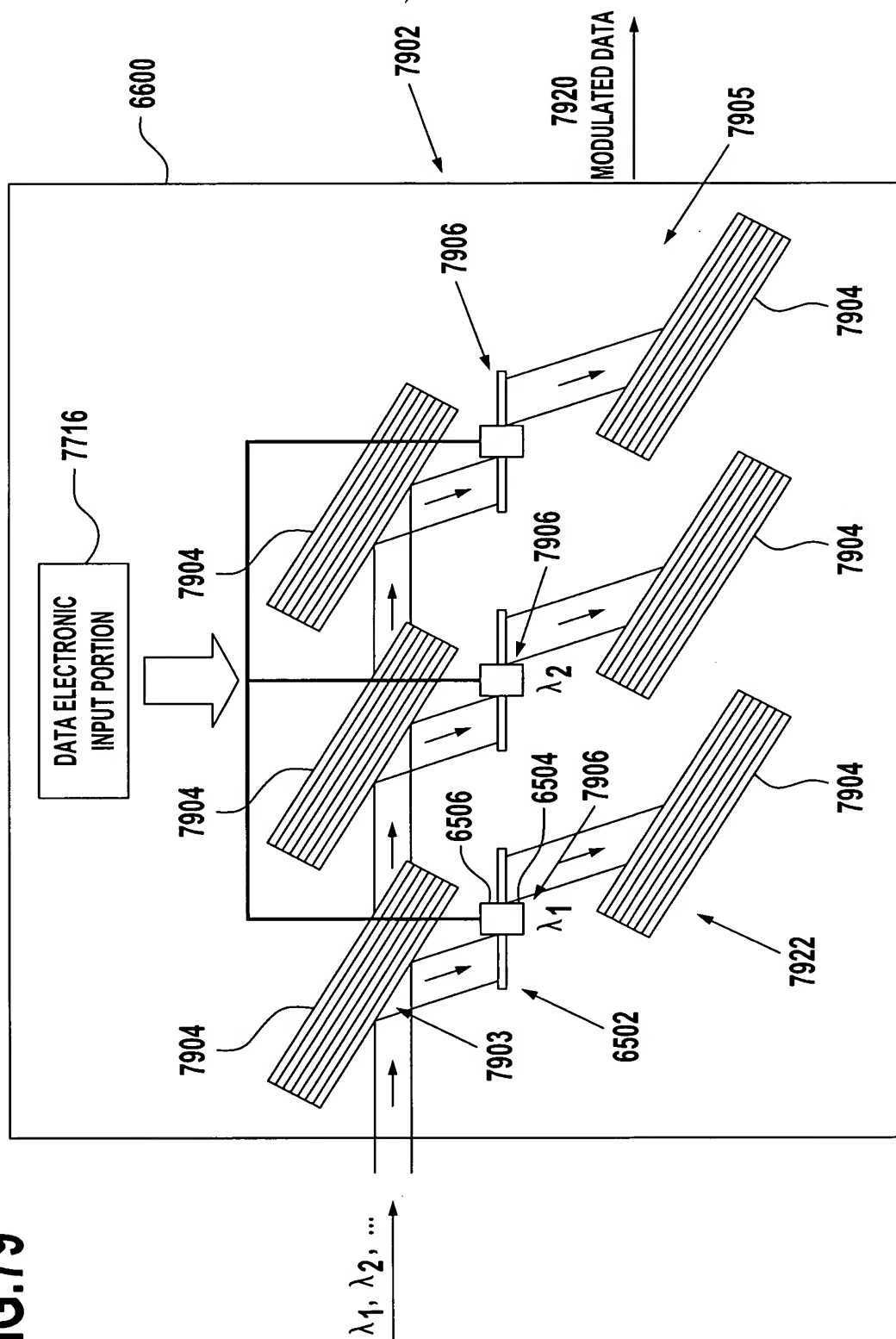
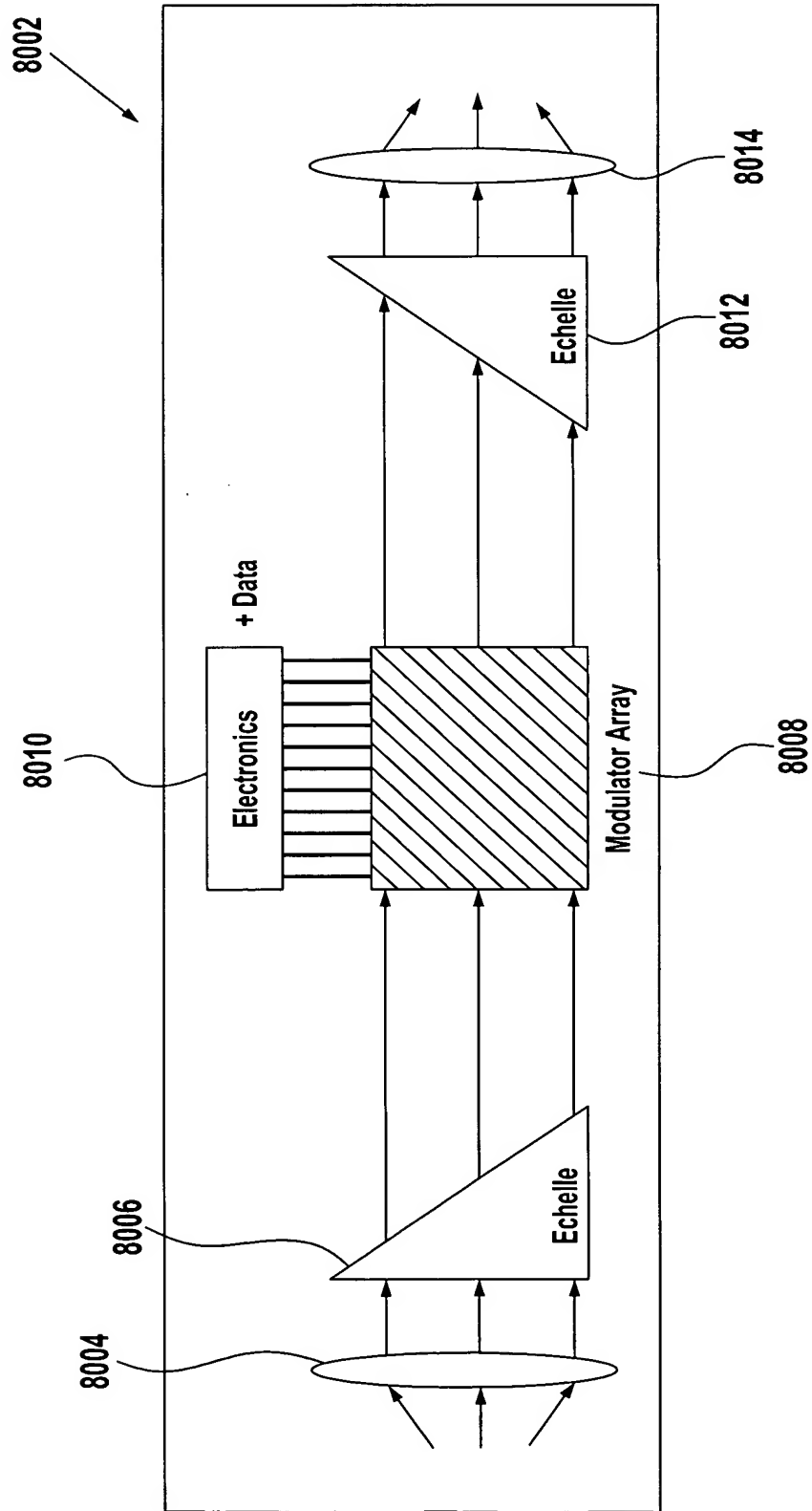


FIG. 80



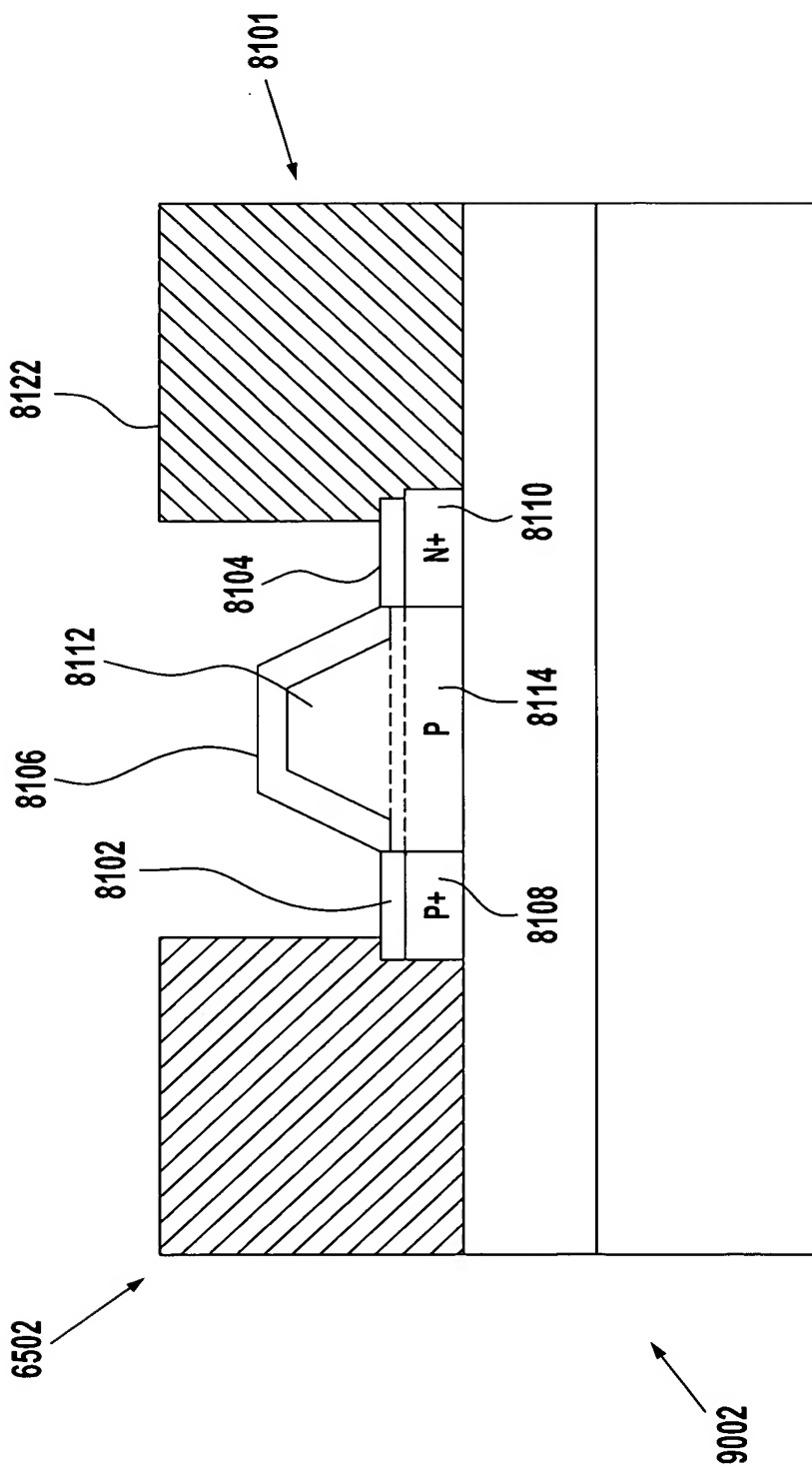


FIG. 82

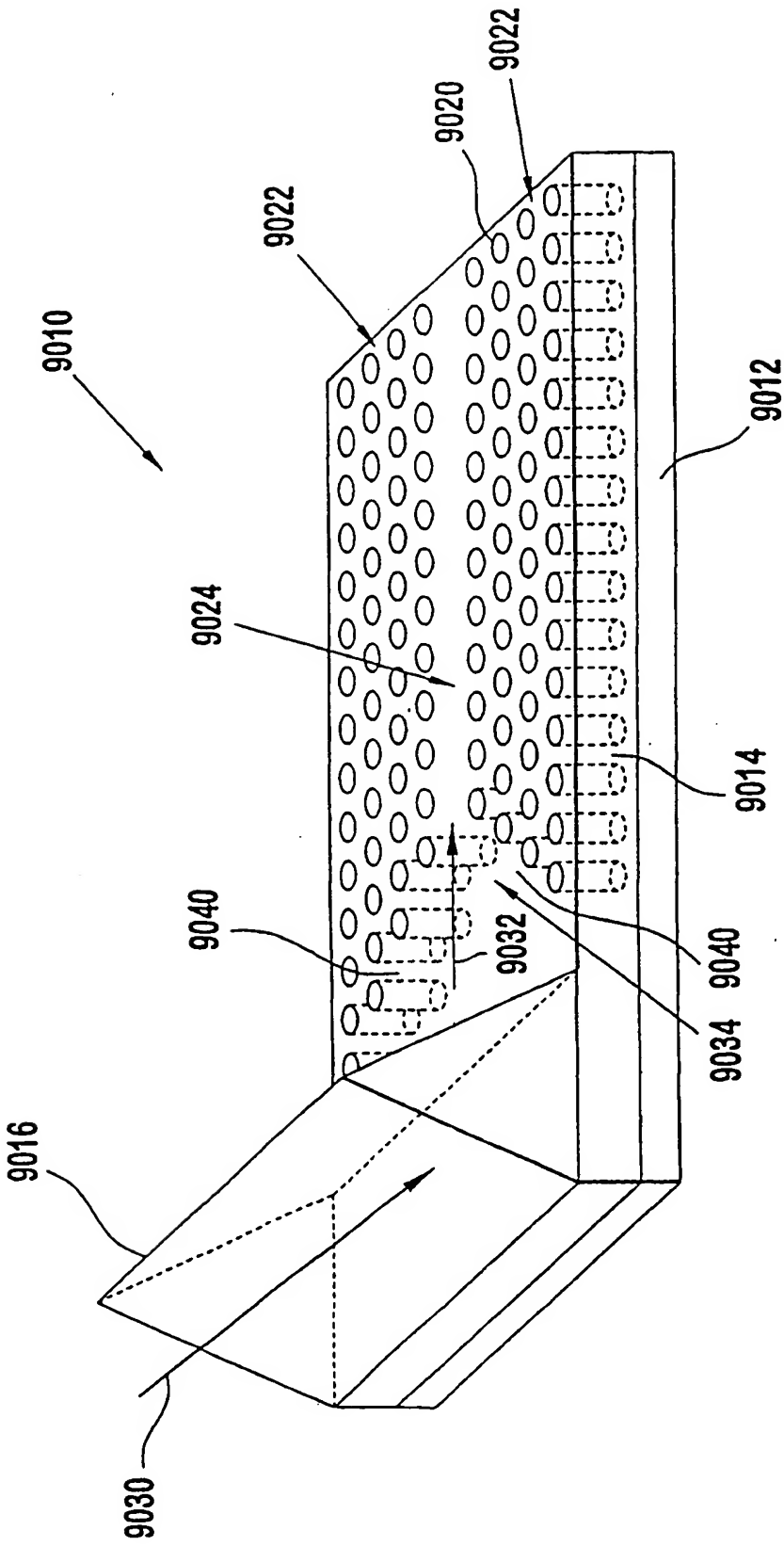


FIG. 83

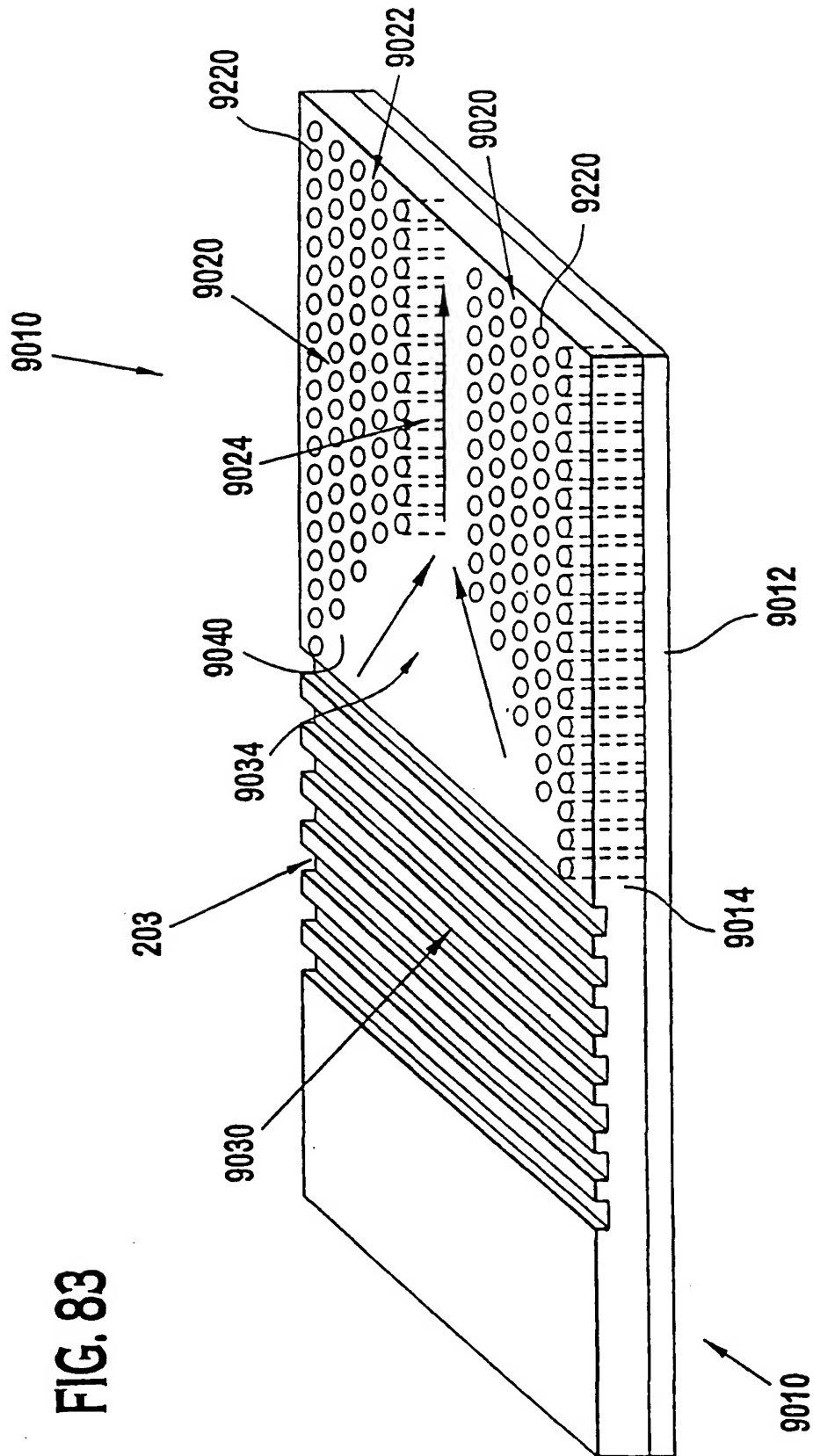


FIG. 84

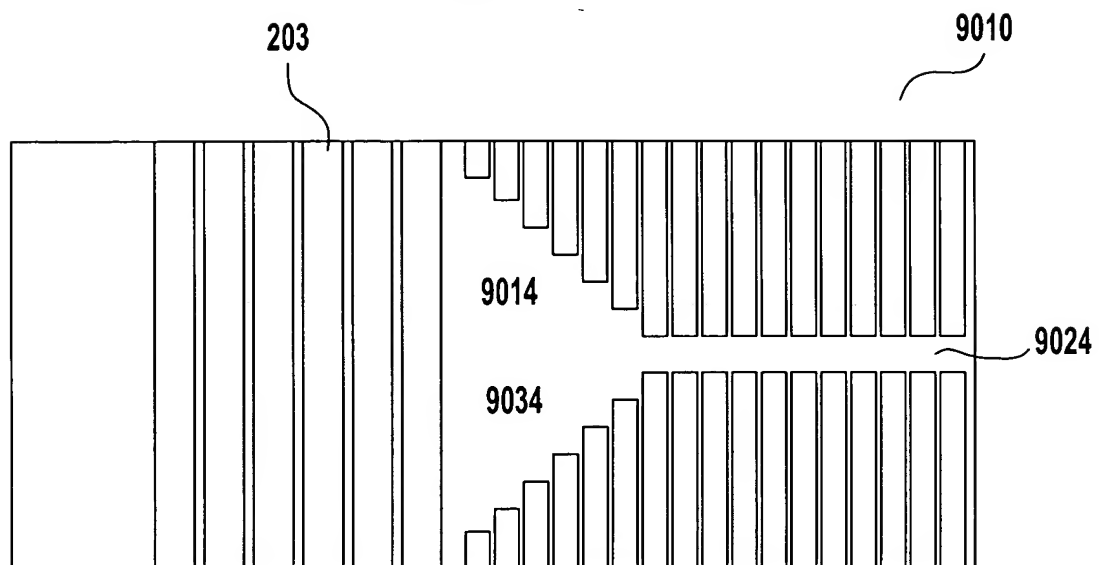


FIG. 85

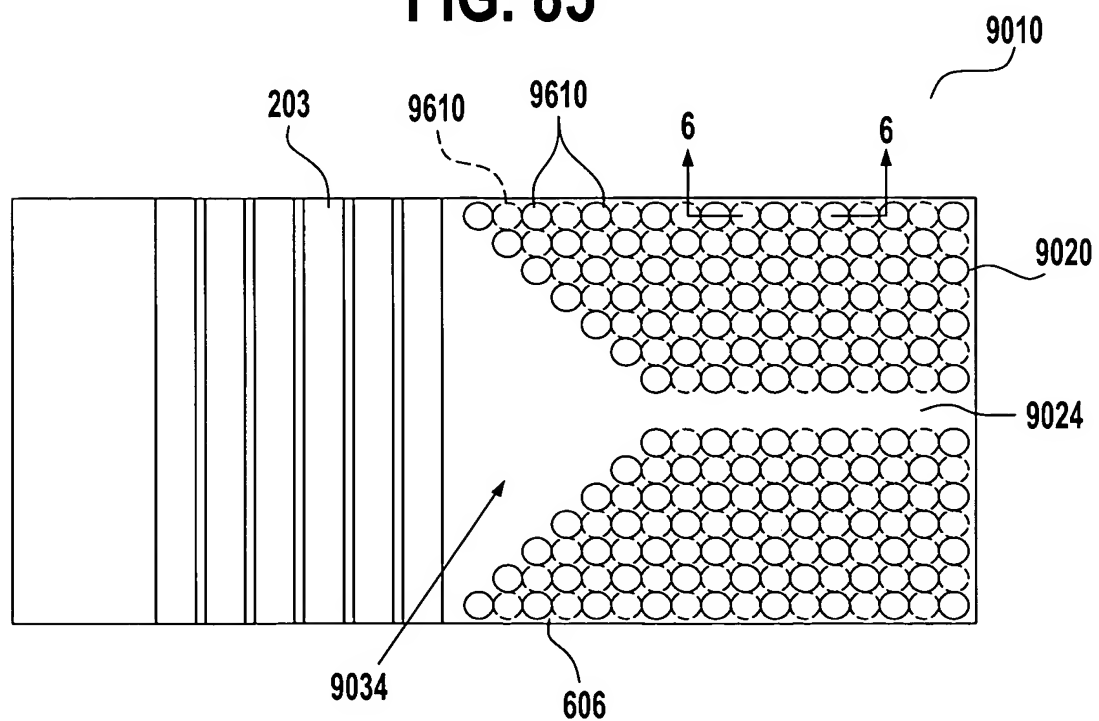


FIG. 86

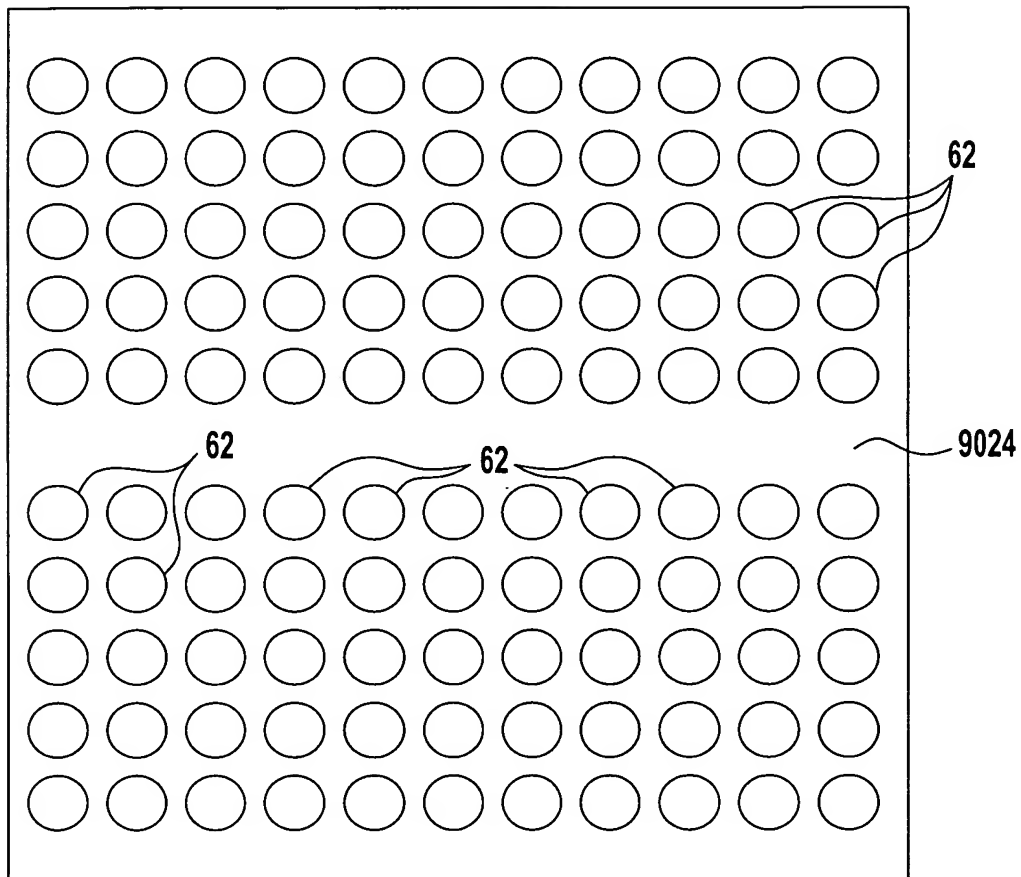


FIG. 87

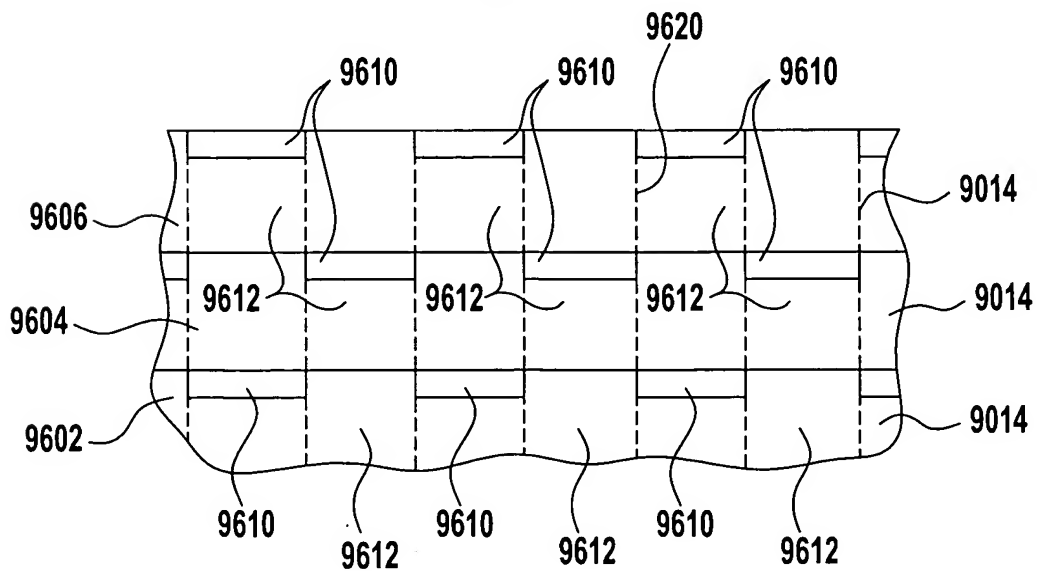


FIG. 88

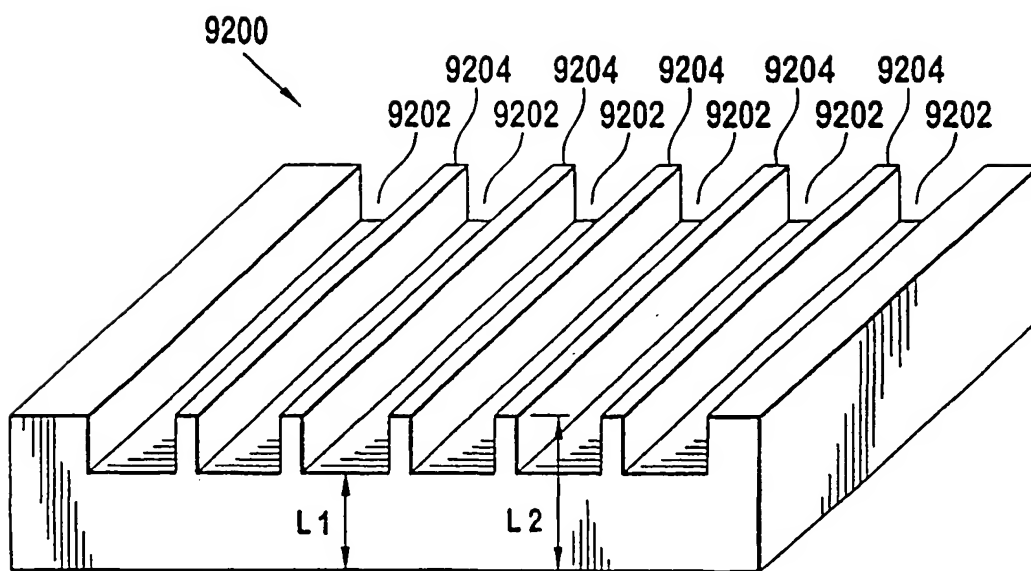
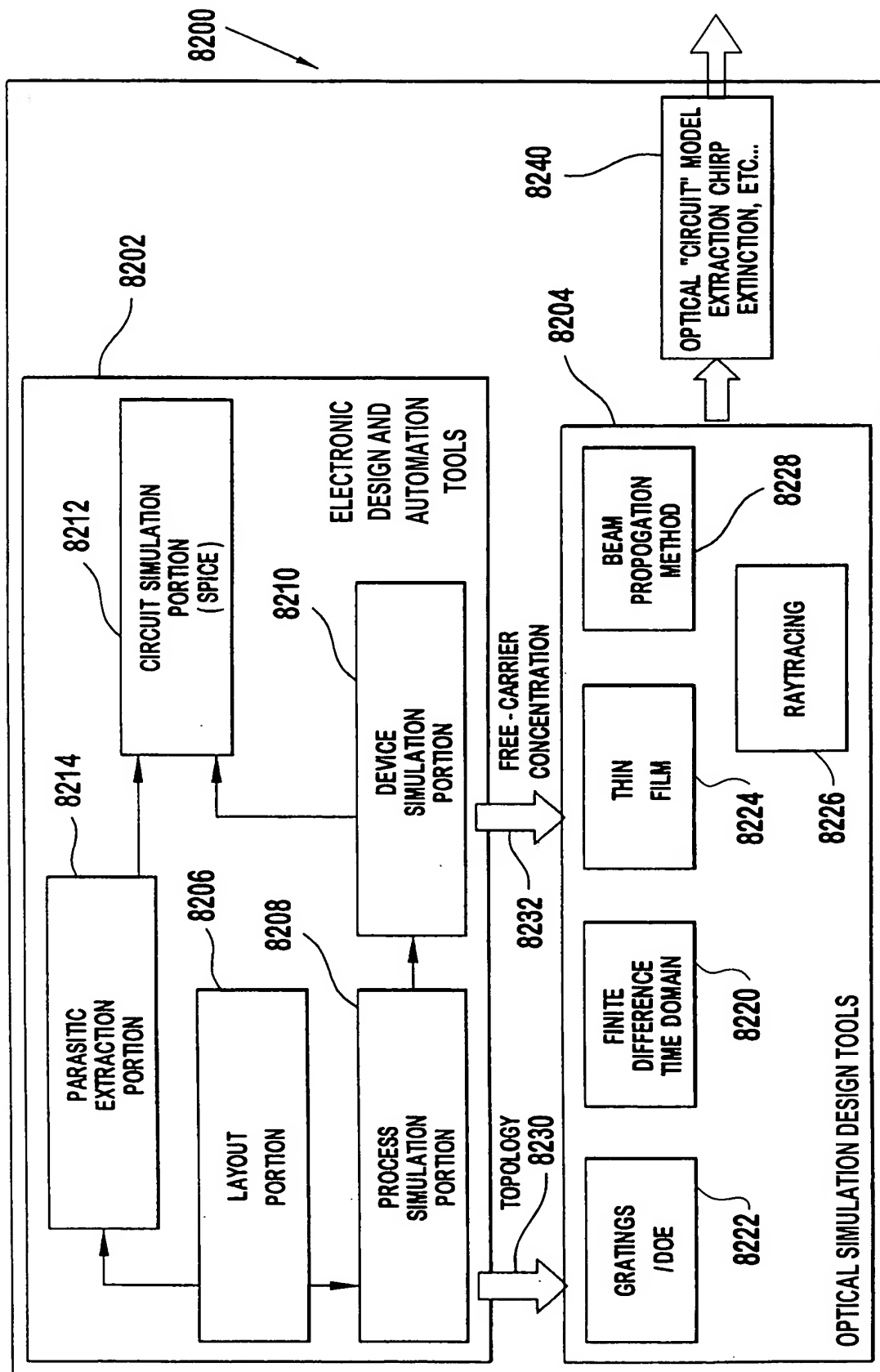


FIG. 89





54/55

FIG. 90

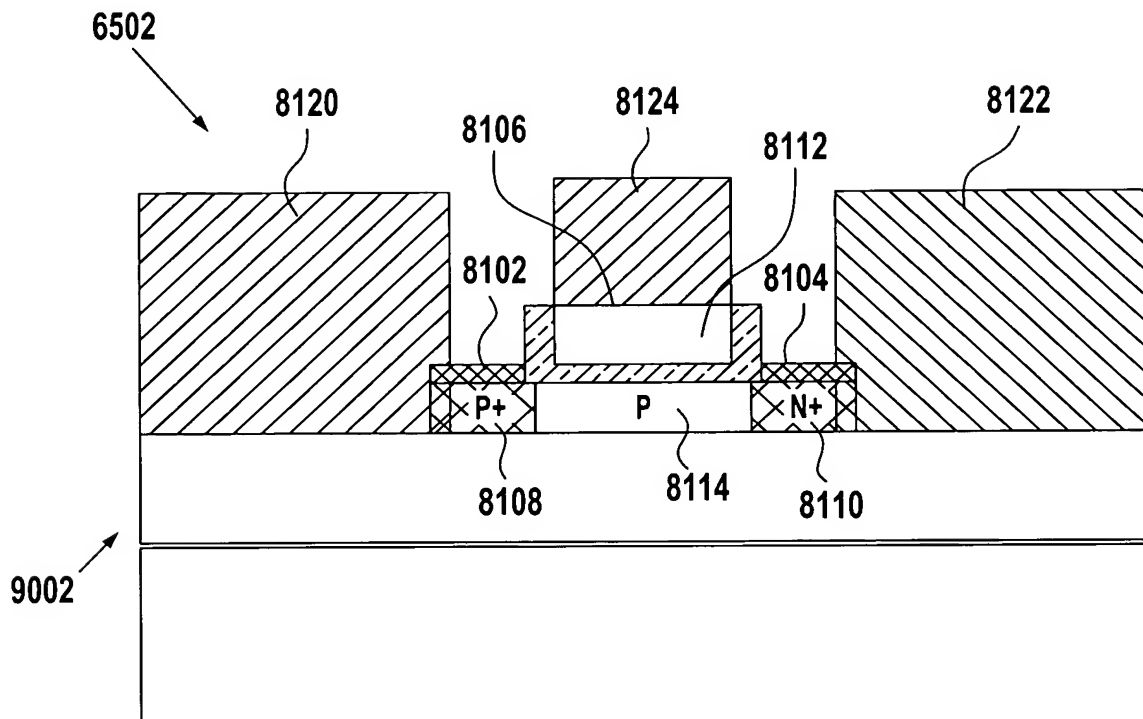




FIG. 91

